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An Exploratory Analysis of the Impact of Internalization, Externalization, Socialization, and Exchange on Employee Learning, Adaptability, Job Satisfaction, and Intention to Stay

Zahid B. Zamir
Dakota State University

AN EXPLORATORY ANALYSIS OF THE IMPACT OF INTERNALIZATION, EXTERNALIZATION, SOCIALIZATION, AND EXCHANGE ON EMPLOYEE LEARNING, ADAPTABILITY, JOB SATISFACTION, AND INTENTION TO STAY

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Zahid B. Zamir

Dissertation Committee:
Dr. Insu Park
Dr. Jun Liu
Dr. Deb Tech

DISSERTATION APPROVAL FORM

This dissertation is approved as a credible and independent investigation by a candidate for the Doctor of Science in Information Systems degree and is acceptable for meeting the dissertation requirements for this degree. Acceptance of this dissertation does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department or university.

Student Name: Zahid B. Zamir

Dissertation Title: An exploratory analysis of the impact of internalization, externalization, socialization, and exchange on employee learning, adaptability, job satisfaction, and intention to stay

Dissertation Chair/Co-Chair: _____ Date: 04/10/17

Committee member: _____ Date: 4/10/17

Committee member: _____ Date: 4/10/17

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ABSTRACT

The field of Knowledge Management (KM) is of growing interest in today's business and academic world. As society enters into the knowledge-based economy, effective knowledge management is essential for organizations to stay competitive. This study explores the impact of different sub-processes of knowledge capture and sharing on employees' outcome in terms of learning, adaptability, job satisfaction and intention to stay. A conceptual model was developed by reviewing the relevant literature. This research was conducted using a purposive sample from financial services firms. The sample for this study consisted of 254 respondents from 23 different branches of eight commercial banks in Bangladesh. The partial least squares (PLS) approach using Smart PLS has been used to test both the measurement and structural model and the result of the measurement and structural model test lend support for the proposed research model. The findings of this study confirm that it is not the KM processes rather the sub-processes of KM that can positively impact on employees' outcomes. The findings of this study contribute to further the understanding of the way in which knowledge management initiatives should be implemented in organizations, especially financial organizations. The current study contributes theoretically to the existing literature of knowledge management that how knowledge capture and knowledge sharing motivate employees to learn and adapt and how learning and adaptability contribute to job satisfaction and staying intention. A major takeaway for practitioners, especially management, is that employees may be nurtured to create, capture, and share the type of knowledge desired by the organization. The findings of this study also portend to the fact that when employers take proper knowledge initiatives and when employees understand and make use of knowledge management tools provided by the organizations, employees are able to create new ideas and are prepared to respond to changes. In order for an organization to create a conducive environment for knowledge management, especially for knowledge capture and knowledge sharing to thrive, an organization must build trust, personal interaction, and relationships so that knowledge may be exchanged among employees of an organization.

DECLARATION

I hereby certify that this dissertation constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions or writings of another.

I declare that the dissertation describes original work that has not previously been presented for the award of any other degree of any institution.

Signed,

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Zahid B. Zamir

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CHAPTER 1

INTRODUCTION

Background of the Problem

Over the last almost two decades, Knowledge Management (KM) has progressed from an emergent concept to an increasingly common function in business organizations (Zack, McKeen, & Singh, 2009). Therefore, knowledge management is actually not a new concept; on the contrary, it has been the subject of several studies in various settings as companies seek more effective ways of increasing organizational capability for competitive advantage (Zack M. H., 1999). Knowledge management is now widely recognized as a competitive advantage, and an increasing number of organizations are incorporating the knowledge management strategy. Sparse empirical evidence concerning factors associated with successful knowledge management implementation is not in itself sufficient to predict knowledge management success. Nevertheless, organizational knowledge is being increasingly considered as a valuable strategic asset both in the short and the long term (Zack, 1999 quoted in (ALHussain, 2012)). Knowledge, being the potential for action, is the necessary element required to inform individual when action is required, motivate individuals to take action, or provide a plan for action. Knowledge is necessary but not sufficient to create action because of other traditional resources; land, labor, and capital may also be required (Lindsey, 2003). It is indeed necessary for every organization attempting to initiate knowledge management solutions to make knowledge management tools available not because they can be used merely as a substitute for knowledge rather those tools can be used as a means of delivering information (ALHussain, 2012) .

Knowledge Management

Knowledge, as defined by Alavi & Leidner (2001), is a set of justified beliefs that enhance an entity's capability for effective action. Knowledge is sometimes also referred to as information with direction. Knowledge, therefore, is at the higher level in a hierarchy with

information at the middle and data at the lowest level. Knowledge as mentioned in Zack et.al (2009) incorporates both the explicit knowledge which is expressed in numbers and words and shared formally and systematically in the form of data, specifications, manuals etc., and tacit knowledge, which includes insights, intuitions, and hunches. Knowledge Management can be defined as performing the activities in discovering, capturing, sharing and applying knowledge so as to enhance, in a cost-effective fashion, the impact of knowledge on the unit's goal achievement. Knowledge Management focuses on organizing and making available important knowledge, wherever and whenever it is needed. According to Becerra-Fernandez et al (2004), there are four types of Knowledge management processes such as Knowledge Discovery, Knowledge Capture, Knowledge Sharing, and Knowledge Application. According to Alavi and Leidner (2001), who developed their Knowledge Management Process framework based on the sociology of knowledge and on the view of organizations as social collectives and knowledge systems, there are also four sets of Knowledge management processes such as Knowledge Creation, Knowledge Storage/Retrieval, Knowledge Transfer, and Knowledge Application. As far as the definitions and classifications of Knowledge Management Processes are concerned, there are similarities in both of these Knowledge Management Process frameworks. However, as far as the methodologies, modes, or sub-processes of Knowledge management processes are concerned, both frameworks differ with each other.

Each of the four sets of KM Processes proposed by The Becerra-Fernandez et al. (2004) consists of sub-processes. Knowledge discovery is enabled by the sub-processes of combination and socialization. In combination, we can combine existing knowledge to create new knowledge and through socialization sub process, tacit knowledge is combined with interactions between individuals and groups to create new knowledge. Knowledge capture can take place through externalization and Internationalization. In externalization, tacit knowledge is converted to explicit knowledge and through internalization sub-process, explicit knowledge is converted into tacit knowledge. Knowledge sharing can happen through socialization and exchange. Through socialization, sub-process tacit knowledge is shared or transferred between individuals and through exchange sub process, explicit knowledge is transferred between individuals. Knowledge application process takes place through the sub-process of direction and routines. Direction refers to the process through which individuals possessing the knowledge direct the action of another individual without transferring to that person the

knowledge underlying the direction and Routines involve the utilization of knowledge embedded in procedures, rules, and norms that guide future behavior.

Each of the four sets of KM Process proposed by Alavi and Leidner (2001) has different sub-processes or modes. Alavi and Leidner (2001) have identified four modes of knowledge creation, which are the first of the four KM processes proposed by them. These are socialization, externalization, internalization, and combination. However as far as the definition of these sub-processes are concerned both Becerra-Fernandez et al. (2004), as well as Alavi and Leidner (2001) defined the socialization, combination, externalization and internalization sub-processes in the same way. Only difference here Alavi and Leidner (2001) included all these four processes for knowledge creation where Becerra-Fernandez et.al (2004) included only socialization and combination sub-process for knowledge discovery or creation. Alavi and Leidner (2001) further included in their KM process framework four "ba" (defined as commonplace or space) suggested by Nonaka and Konno (1998) for knowledge creation. Four types of "ba" corresponding to the four modes of knowledge creation are: Originating ba, interacting ba, cyber ba, and exercising ba.

As far as the second KM process is concerned Becerra- Fernandez et.al (2004) called it knowledge capture where Alavi and Leidner (2001) called it knowledge storage/retrieval. There are two sub-process according to Becerra-Fernandez et. al (2004) such as externalization and international, which Alavi and Leidner (2001) have already included as modes of knowledge creation. According to Alavi and Leidner (2001), the storage and retrieval of organizational knowledge also referred to as organizational memory and organizational memory is classified as semantic or episodic. Semantic knowledge refers to general, explicit and articulated knowledge whereas episodic memory refers to context-specific and situated knowledge.

Becerra-Fernandez et. al (2004) has expounded the third process (knowledge sharing) of KM processes through socialization and exchange. Knowledge sharing can take place across individuals, groups, departments, or organizations. Tacit knowledge is shared through socialization and explicit knowledge is shared by exchange process. Tacit knowledge forms the background necessary for assigning the structure to develop and interpret explicit knowledge. The inextricable linkage of tacit and explicit knowledge suggests that only individuals with a requisite level of shared knowledge can truly exchange knowledge. While Alavi and Leidner,

(2001) explained the third process (knowledge transfer) in terms of five elements and four forms. Five elements are: i) perceived value of the source unit's knowledge, ii) motivational disposition of the source (i.e., their willingness to share knowledge), iii) existence and richness of transmission channels, iv) motivational disposition of the receiving unit (i.e., their willingness to acquire knowledge from the source), and v) the absorptive capacity of the receiving unit, defined as the ability not only to acquire and assimilate but also to use knowledge. Four forms of knowledge transfer mechanisms are: i) formal transfer mechanisms, ii) personal channels, iii) personnel transfers and iv) impersonal channels, such as knowledge repositories.

According to Becerra-Fernandez et. al (2004), the knowledge application can take place through direction and routines. Alavi and Leidner (2001) explained knowledge transfer process in terms of directives, organizational routines, and self-contained task team. Direction refers to the process through which individuals possessing the knowledge direct the action of another individual without transferring to that person the knowledge underlying the direction. Routines involve the utilization of knowledge embedded in procedures, rules, and norms that guide future behavior.

The field of KM is of growing interest in today's business and academic world. As society enters into the knowledge-based economy, effective knowledge management is essential for an organization to stay competitive. KM is widely recognized by both academics and practitioners for its increasing importance in gaining the organizational competitive advantage (Sabherwal & Becerra-Fernandez, 2003).

Today's decision maker faces the pressure to make better and faster decisions in an environment characterized by high domain complexity and market volatility (Sabherwal & Becerra-Fernandez, 2003). Organizations are increasingly undertaking Knowledge Management initiatives and making a significant investment in them. Knowledge management can impact an organization at different levels such as: impact on people in terms of employee learning, employee adaptability, and employee job satisfaction, impact on processes in terms of process effectiveness, efficiency and innovation, impact on products in terms of value added products as well as knowledge-based products, all of which in turn impact organizational performance (Becerra-Fernandez, Gonzalez, & Sabherwal, 2004).

In any organization, the main feature of knowledge management is a focus on organizational objectives, these include employee performance and productivity, competitive advantage, innovation, sharing knowledge and skills, and integration, leading to the improvement of the organization. Frost (2010) has found some general problems that an organization may encounter when implementing knowledge management system: poor performance, poor fit with organizational processes and culture, and over-reliance on technology.

Research Gap and the Statement of the Problem

Grant (1996) considers knowledge management as a transformation of the employees' knowledge into a manageable asset, which includes reshaping the organizational structure and culture. There has been a gamut of studies done on the effectiveness of knowledge management in driving excellence, growth and making a significant difference in the performance of an organization. Although the implementation of knowledge management has been cited widely as a challenge in organizational effectiveness and performance, there is a little research on the broader aspects of the nature and means through which internalization and externalization sub-processes of knowledge capture, as well as socialization and exchange sub-processes of knowledge sharing, can impact on employee learning, adaptability and how employee learning and adaptability lead to job satisfaction and how job satisfaction leads to employees' intention to stay on the job in the context of Bangladesh. Although over the last decades' countries like China, India, Malaysia have made remarkable progress in exploiting information and communication technology, Information and communication infrastructure remain poor and inadequate in Bangladesh.

With that in mind, this study will explore the extent to which private organizations in Bangladesh are adopting knowledge management practices in general and knowledge capture and knowledge sharing practices in particular through internalization, externalization, socialization and exchange sub processes and how those sub processes impact employee learning, adaptability and job satisfaction and intention to stay in the job. To achieve this objective, this study will try to answer the following questions:

1. Impact of internalization and externalization sub processes of knowledge capture on employee learning, adaptability, job satisfaction and the intention to stay on the job.
2. impact of socialization and exchange sub processes of knowledge sharing on employee learning, adaptability, job satisfaction and the intention to stay on the job.

Significance of the Study

The implications of this research can be of significant value to organizations as they prepare to implement knowledge management initiatives. An organization may gain an advantage over other organizations depending upon the resources, knowledge management tools and the knowledge management mindset of the employees. The results of this research may help organizations assess the likelihood that implementation of inter- and intra-organizational knowledge capture and knowledge sharing processes will be helpful or will increase the organization's competitive advantages. This is paramount importance as organizations make significant investments in time, money and personnel when they embark on knowledge management initiatives (Parikh, 2001 quoted in Lawson, 2003). An important organizational purpose is to collect knowledge, and an important task for managers is to ensure that the knowledge is made available everywhere it is needed (Lindsey, 2003). A better understanding of knowledge capture and knowledge sharing processes may provide managers with a set of tools that could be used to craft new organizational forms, with much greater potential to harness previously untapped knowledge sources (Lindsey, 2003). In order to be able to retain experienced employees, there is a need for better understanding of knowledge capture and knowledge sharing processes of knowledge management and how those processes impact employee learning and adaptability and how learning and adaptability lead to job satisfaction and reduce the turnover rate. So, a better understating of the knowledge management processes and sub-processes are needed for an organization to make wise choices about resources and to make strategic and effective business initiatives.

CHAPTER 2

LITERATURE REVIEW

A review of prior literature can effectively uncover the key indicators for successful Knowledge Management in Organizations. There is a tendency for employees who stay with companies to share their knowledge and expertise only with those they work daily, which limits the number of employees who can benefit from such expertise. In this regard, the failure of a company to capture and share information about business processes, best practices, and lessons learned can result in significant losses in productivity. By computing, sharing and using intellectual assets of employees, organizations can be more effective in reducing duplications, and producing more innovative products and services (ALHussain, 2012).

KM and Organizational Performance

There have been some studies that demonstrated that although knowledge management impacts organizational performance, it however does not directly impact financial performance of an organization. The study of the possible effects of introducing KM in the firm has centered on determining whether it is able to carry out quantifiable improvements (Marques & Simon, 2006). Davenport (1999) as cited in Marqués & Simón (2006) points out, although the relationship between KM and performance indicators has been discussed in the literature at length, few firms have been able to establish a causal relationship between KM activities and firm performance.

Ho (2008) proposed a conceptual equation model to investigate the relationships among self –directed learning (SDL), organizational learning (OL), knowledge management capability (KMC) and organizational performance (OP). She conducted an empirical study in 21 technological companies in Taiwan to test the relationships among four of these dimensions (SDL, OL, KMC, OP). Knowledge is the most important resource in an organization, and the characteristics and problems of knowledge do not necessarily differ because of different geographic locations (Ho, 2008). The author cited Knowles (1975) in defining self-directed

learning (SDL) as a process in which learners take the initiative, with or without the help of others, in identifying their learning needs, formulating learning goals, choosing learning resources, employing suitable learning strategies, and assessing learning outcomes. The author identified and measured four factors for SDL: self-recognition which refers to the extent to which the individual understands his/her needs for learning, ii) active learning which refers to the extent to which the individual is able to be independent and effective in learning, iii) fondness for learning which refers to the extent to which the individual is interested and desired in learning, and iv) continuous learning which refers to the extent to which the individual is able to continue to learn and take the responsibility in learning . As for organizational learning, the author extracted four indicators for measurement based on the literature review: i) information sharing patterns which refers to the extent to which information is shared, and information is shared, ii) inquiry climate which refers to the extent to which the individual's attitude towards improving organizational performance (OP) by receiving challenges and participating in experiments, iii) learning practices which refers to the extent to which the members in the organizations actively participate in each learning activity, and iv) achievement mindset which refers to the extent to which the members in the organization achieve self-realization . The author measured and conceptualized knowledge management practices (KMC) in terms of : i) learning and obtaining knowledge which refers to the extent to which the members in the organization are able to understand and acquire knowledge from external sources, structured internal sources as well as unstructured internal sources, ii) sharing knowledge which refers to the extent to which the members in the organization use various communication tools (formal and informal) to assist in knowledge sharing, and iii) creating and improving knowledge which refers to the extent to which the members in the organization are able to create new knowledge and enhance work behaviors. Ho (2008) measured organizational performance (OP) in terms of i) financial performance which refers to the extent to which the organization performs in relative profitability, return on investment and total sales growth, ii) market performance which refers to the extent to which the organization performs in market share, profit ratio, and customer satisfaction. Ho (2008) investigated the relationships between SDL, OL, KMC, and OP using structural equation modeling. A theoretical model was proposed and tested using structural equation modeling. The results of Ho's study was based on 21 technological companies in Taiwan with members exceeding 1000 employees and having

at least one-year experience in implementing knowledge management as well as having strategies that promote learning. The author conducted reliability and validity for each of the constructs in the model (SDL, OL, KMC, and OP) with multivariate measures and to ensure that the instrument has reasonable construct validity, both exploratory and confirmatory factor analysis were used. However, the findings of Ho's research model suggest that organizations need to effectively and efficiently manage OL activities and leverage KMC by promoting or implementing an effective SDL system to enhance OP. This implies that SDL policies or activities should be constructed to facilitate the activities of OL and or KMC; otherwise, the positive effect on OP cannot be achieved from the policies or activities of SDL alone. Therefore, in order to enhance a firm's OP, the executives should focus promoting a healthy environment for SDL, as well as formulating effective OL and KMC policies and facilitate their implementation. Ho (2008) further underscored the need for the members of the organization especially middle and top managers, to engage in OL and KMC activities to enhance OP. It is also necessary to develop SDL culture for effective OL and KM activities. Even though the empirical results of Ho's study largely support her research model, there are a number of issues that need to be taken into account to further improve her research model. Firstly; due to different personal experiences, family or educational backgrounds, possible biases or preferences may exist in the empirical data provided by the individual informants. Secondly, the data were collected in Taiwan; the characteristics of these firms surveyed may be quite different from those in other countries.

Zack, McKeen and Singh (2009) demonstrated the impact of knowledge management on organizational performance through an exploratory analysis by examining some North American (US and Canada) and Australian companies. The purpose of their research was to study the perceived quality and extent of knowledge management practices in order to more clearly examine the relationship between KM practices and performance outcomes. The primary research question that the authors tried to answer through their exploratory study was the extent to which an organization engages in particular knowledge management practices positively related to organizational performance and is organizational performance, in turn, positively related to financial performance. According to their proposed research model, KM practices will be positively associated with a set of intermediate performance outcomes (customer intimacy, product leadership and operational excellence) termed "organizational

performance", and organizational performance will be positively associated with financial performance. The authors were less interested in the detailed technological, socio-cultural or structural mechanisms by which knowledge management is supported or enhanced and focused instead on the perceived quality and extent of knowledge management practices and how they are related to outcomes (Zack, McKeen, & Singh, 2009). Based on the literature review, the authors identified four key dimensions of KM practices: i) the ability to locate and share existing knowledge, ii) the ability to experiment and create new knowledge, iii) a culture that encourages knowledge creation and sharing and iv) a regard for the strategic value of knowledge and learning. As for the organizational performance, the authors linked knowledge management practices to a set of three intermediate performance outcomes: product leadership, customer intimacy, and operational excellence and called them organizational performance. The items that were included and measured are: product and service innovation, quality, custom satisfaction and retention, and operating efficiency. As for the financial performance, the authors included two items: one for measuring return on assets or equity and the other profitability. In order to test the research model, the authors developed a survey and all measures including performance measures were based on respondents' perception. The survey was piloted with two groups of knowledge managers: one based in Canada and other based in the USA. The authors validated the survey with a group of executives. The findings of the survey results indicate that KM practices are positively associated with organizational performances. More specifically the authors in their studies also found that KM practices are directly related to various intermediary measures of strategic organizational performance namely; customer intimacy, product leadership and operational excellence and that those intermediate measures are, in turn, associated with financial performance. Customer intimacy represents competition based on understanding, satisfying and retaining customers. Product leadership represents competition based primarily on product or service innovation. Operational excellence represents competition based on efficient internal operations. The financial performance is measured in terms if return on assets or equity and the other profitability. The authors defined knowledge management practices as observable organizational activities that are related to knowledge management. In addition to creating a performance construct for each value discipline (customer intimacy, product leadership, and operational excellence), the authors also assessed twelve knowledge management practices based on a five-point Likert-type scale:

i)knowledge as a key element in the strategic planning exercises, ii)benchmarking strategic knowledge against that of competitors, iii) developing knowledge strategy that maps knowledge to value creation, iv) identifying sources of expertise within the organization, v) employees are valued for what they know, vi) looking for opportunities to experiment and learn more about customers, vii) looking for opportunities to experiment and learn more about products and services, viii) looking for opportunities to experiment and learn more about technologies and internal operations, ix) encouraging and rewarding the sharing of knowledge, x) having effective internal procedures for transferring best practices throughout the organization, xi) exploiting external sources of knowledge effectively including customer knowledge, and xii) sources of value creation within the organization. A five-point Likert- type scale was used to ascertain the extent to which an organization was actively engaged in each of three knowledge management practices. This study also shows that there is no direct relationship between KM practices and financial performance of an organization, but KM practices are directly related to organizational performance which, in turn, are directly related to financial performances. The authors also underscored the need for developing the KM mindset to enable knowledge management practices to get traction within organizations.

Marqués and Simón (2006) researched the effect of knowledge management practices on firm performance where they examined the theoretical relations between Knowledge Management and firm performance through an empirical study carried out on 222 Spanish firms in the biotechnology and telecommunications industries. The authors studied the importance of knowledge management as a source of sustainable competitive advantages for firms and analyzed how the introduction of knowledge management practices enables firm performance to improve. Marqués and Simón (2006) measured knowledge management practices in terms of six indicators: i) orientation towards the development, transfer and protection of knowledge, ii) continuous learning in the organization, iii) an understanding of the organization as a global system, iv) development of an innovative culture that encourages research and development (R & D) projects, v) approach based on individuals, and vi) development of competences and management based on competences. A total of 257 questionnaire responses were achieved. The sample finally included 222 firms (102 from the biotechnology industry and 120 from the telecommunications industry) so the response rate was 45.1 and 14.2 percent respectively. This final sample has a statistical margin of error of.7 percent, with a 95.5 percent confidence

interval. In order to make the measurement scales to be useful for gathering information on the constructs to be evaluated, the authors have verified the scales in terms of dimensionality, reliability and validity. The authors demonstrated how the firms that adopt knowledge management practices obtain better results than their competitors do. This study also shows that the introduction to six dimensions mentioned above makes it easier for managers to focus their attention on them, determining the specific actions to carry out to introduce them. Results highlight the relevance of the human dimension, necessary for developing an effective knowledge management strategy (Marques & Simon, 2006). The conceptualization of knowledge management practices represents a theoretical innovation and this scale can be used in other knowledge-intensive industries (Marques & Simon, 2006).

Decarolis and Deeds (1999) studied the impact of the organizational knowledge on firm performance. Using the biotechnology sector for the empirical study, authors concluded that organizational knowledge is conceptualized through stocks and flows of knowledge. Knowledge stocks accumulate knowledge assets that are internal to the firm. Flows refer to all the elements able to modify the stock of knowledge. Authors also concluded that among the variables used to make flows of organizational knowledge operational, only the munificence of the geographical area is significant. This means geographical location influences capacity for capturing knowledge. As for the variables used to measure knowledge stocks, there are two that positively affect firm performance; the number of products that the firm is developing and the number of times works created by a firm are cited. In addition, organizational knowledge stocks have greater impact on firm performance than knowledge flows.

KM and Competitive Advantage

There have been some studies that examined the use of knowledge management in an organization and the competitive advantage. Salazar et. al (2003) examined the strategic impact of internet technology in biotechnology and pharmaceutical firms from a KM perspective where KM was found to have enabled smaller pharmaceutical and biotechnology firms to compete and gain competitive advantage. Dibella and Navis (1998) cited in Salazar et.al (2003) stated that the introduction of KM programs facilitates the acquisition of new knowledge, which will have a bearing on the creation of new routines and mental models. Besides, the importance of

knowledge as basic factor to create a competitive advantage is reinforced in industries that are constantly innovating.

Singh et. al (2006) examined the KM practices in Indian manufacturing organizations by designing a structured questionnaire to collect responses and carefully selected industries from the directory of public sector, private sector and government organizations. The aspects that the authors covered in the questionnaire included the different characteristics of the organizations, the competitive priorities of the organizations, their reasons for using knowledge management, the obstacles encountered in the implementation of KM, planning and implementing issues, enablers of KM, measurement of performance of KM, key KM characteristics, reasons for using KM, planning KM strategies, etc. (Singh, Shankar, & Adish, 2006). The findings of Singh et.al (2006) indicate that where there have been numerous initiatives by Indian manufacturing firms towards a better appreciation of knowledge management activities, the use of IT tools has helped to put these initiatives on a fast track implementation especially for capturing, storing, and using knowledge. The findings of Singh et. al (2006) further indicated that it is mainly largescale and medium-scale manufacturing organizations in India that are using KM. The survey results also show that the competitive priorities for which Indian organizations are using KM include quality, cost reduction, improvement in efficiency, improved delivery, flexibility and innovation. Singh et. al (2006) findings also indicate that KM initiatives are well grounded in Indian manufacturing firms and extensive use of IT tools seems to be the major catalyst for this.

Lundvall and Nielsen (2007) demonstrated in their paper, titled "Knowledge management and innovation performance", why the establishment of learning organizations must be a central element of knowledge management –especially in firms operating on markets where product innovation is an important parameter of competition. The firms in their study have been classified into three main groups on the basis of the additive index; low-level learning organizations, Medium -level learning organizations, and the High- level learning organizations. The arguments span and combine insights related to management and organization theory with an evolutionary economic analysis of the relationship between innovation learning and knowledge. The authors conducted an empirical analysis on the basis of a 2001 survey addressed to all Danish firms in the private sector with 25 or more employees. The findings of their empirical studies indicate that firms that introduce several organizational

practices, assumed to characterize the learning organization, are more innovative than the average firm. The learning organization characteristics have a positive impact on dynamic performance and there are obviously lessons to be learned from successful firms operating in turbulent environments that introduce specific organizational characteristics such as job rotation, inter-divisional teams, and delegation of responsibility and reducing the number of levels in the organizational hierarchy. Lundvall and Nielsen's (2008) paper puts knowledge management into the wider concept of learning economy and shows how a key element of knowledge management is to enhance the learning capacity of the firm.

KM, Organizational Learning and Effectiveness

Sabherwal and Becerra-Fernandez (2003) focused on a specific question; how do knowledge management processes influence perceived knowledge management effectiveness? The authors conducted their study at the John F. Kennedy space center of the National Aeronautics and Space Administration using a survey of 159 individuals and two rounds of personal interviews. The authors examined the knowledge, KM and KM effectiveness in three theoretical streams; i) organizational learning theory, ii) the knowledge-based theory of the firm; and iii) Nonaka's theory of knowledge creation (Sabherwal & Becerra-Fernandez, 2003). Organizational learning is said to occur when new knowledge is generated, even if this new knowledge does not produce any change in behavior. Organizations learn through the positive and negative outcomes that their members encounter from their behaviors. According to the knowledge-based theory of the firm, the essence of organizational capability is the integration of knowledge. Knowledge starts with the individual, and firms need to integrate this knowledge using a combination of mechanisms and technology. According to Nonaka's theory of knowledge creation, an organization cannot create knowledge by itself; instead, individual knowledge is the basis of organizational knowledge creation. All these three theories recognize that knowledge management leads to cognitive development, produces impacts at various levels including impacts on the overall organization and considers learning or knowledge creation as originating at the individual levels, then moving up through groups, and then to the overall organization. The authors proposed upward influences in perceived effectiveness of KM including the effects of perceived individual- level KM effectiveness on perceived group-level

KM effectiveness and perceived organizational-level KM effectiveness as well as effect of group- level KM effectiveness on perceived organizational- level KM effectiveness based on the above three theories. Sabherwal and Becerra-Fernandez (2003) theoretical model also proposed internalization and externalization to affect perceived individual-level effectiveness of KM and externalization to affect perceived group-level effectiveness of KM as well as both socialization and combination to affect perceived group-level effectiveness of KM and combination to affect perceived organizational-level effectiveness of KM. The findings of their research indicate how KM processes impact perceived individual-level, group level, and organizational-level KM effectiveness. However, examination of the indirect effects revealed that externalization significantly affects perceived group level KM effectiveness through perceived individual level KM effectiveness. The model suggests that internalization and externalization impact perceived effectiveness of individual level knowledge management. Socialization and combination influence perceived effectiveness of knowledge management at group levels, respectively. The results also support the expected upward impact in perceived effectiveness of knowledge management, from individual to group level, as well as from group level to organization level. Although Sabherwal and Becerra-Fernandez's (2003) study makes some valuable contributions in the field, this study lacks generalizability due to the following reasons; firstly, Sabherwal and Becerra-Fernandez (2003) focused only on large organization and all the respondents belong to the same organization. Secondly, this study was cross sectional and static in nature. A longitudinal investigation would have provided insights into the dynamics of the effects of KM processes as well as the dynamics across various levels. Thirdly, this study considered only the KM processes as affecting perceived KM effectiveness at various levels and did include non-KM processes that might have affected perceived KM effectiveness.

Yang (2007) explored the relationship among organizational effectiveness, organizational learning and knowledge sharing implementation. The author empirically investigated the extent to which knowledge sharing and organizational learning affect organizational effectiveness. Knowledge could increase its value when it is shared with and transferred to others and the process of effective organizational learning , by way of sharing information and knowledge among organizational members, enables individuals and organizations to reflect on the consequences of their behaviors and actions, to obtain insights

from an environment where they operate, to understand the environment , and hence to interpret the meaning and react to it in more accurately (Yang, 2007, Jones et.al , 2003). The author ran a regression test by taking organizational effectiveness as dependent variable and organizational learning as well as knowledge sharing as independent variables. Yang (2007) defined knowledge sharing as a transfer process where individual competences are developed through sharing and learning from others, described organizational learning as a continuous transformation process of transferring individual knowledge to organizational systems and defined organizational effectiveness as an outcome of managerial effectiveness and operational performance. Based upon the literature review, the author identified and tested two hypotheses: i) knowledge sharing positively influences organizational learning, and ii) knowledge sharing and organizational learning positively influence organizational effectiveness. In order to test those hypotheses, the author designed and distributed questionnaires to 1200 participants across nine international tourist hotels in Taiwan. Of the returned surveys, 499 were fully completed and the response rate was 41.6 percent. The study demonstrated that the outcomes of knowledge sharing implementation influenced organizational learning at a certain level and if sharing knowledge is successfully evolved, new explicit and implicit knowledge, such as routines tasks and competencies, are oftentimes implemented in the workplace. The study further concluded that both knowledge sharing and organizational learning can positively influence and significantly contribute to organizational effectiveness and appropriate transfer of individual knowledge would result in knowledge appreciation, and consequently, enhance the outcomes of organizational learning and thereby organizational effectiveness (Yang, 2007)
.

Knowledge Sharing, Job Satisfaction and Staying Intention

Kianto, Vanhala and Heilmann (2016) studied the impact of knowledge management on job satisfaction and proposed a theoretical model concerning the connections between five facets of knowledge management (knowledge acquisition, knowledge sharing, knowledge creation, knowledge codification, and knowledge retention) and job satisfaction. Based on their research model, the authors argued that the five facets of knowledge management improve the likelihood of employee job satisfaction and job satisfaction, in turn, is related to high

performance at both the individual and organizational levels. The authors used PLS to assess the reliability and validity of the measurement model. The structural model was used to test five hypotheses in their paper. The results of their study show that, of the five-knowledge management facets, knowledge acquisition and knowledge creation do not affect job satisfaction. However, the remaining three knowledge management processes had connections with job satisfaction. The results indicate that intra-organizational knowledge sharing is the key process, promoting job satisfaction for most employee groups. This study further demonstrated a novel benefit of knowledge management for organizations, strengthening the argument that KM is important driver of value creation, organizational competitiveness and success (Kianto et al., 2016). Their study also showed that, the significant knowledge based promoters of job satisfaction differ as a function of job characteristic. Specifically, KM processes account for 58 percent of the variance of job satisfaction for middle managers, the largest percentage in the study. For this group knowledge, sharing was the key issue, followed by knowledge retention. The second largest variance explained was for the experts. For this group, KM processes accounted for almost half of the variance in job satisfaction and knowledge sharing as well as knowledge retention were key processes that improved job satisfaction. Job satisfaction for the general employee group was also significantly influenced by KM processes, specifically, knowledge sharing, knowledge codification and knowledge retention. This means the widest range of KM processes affects job satisfaction for general employees. KM processes seem to have the least impact on job satisfaction for the top-level management of the municipal organization under study. This is somewhat surprising finding, as the work of the high-level managers is all about knowledge work, handling complex issues and problem solving (Kianto et.al 2016).

Teh and Sun (2012) examined the effect of job involvement, job satisfaction, organizational commitment, and organizational citizenship behavior on employees' knowledge sharing behavior based on a survey of 116 information systems personnel in Malaysia. As part of their examination, Teh and Sun (2012) developed five constructs: Job involvement, job satisfaction, organizational commitment, organizational citizenship behavior, and knowledge sharing behavior and tested the following hypotheses: i) Job involvement will have a positive effect on employees' knowledge sharing behavior, ii) Job satisfaction will have a positive effect on employees' knowledge sharing behavior, iii) Organizational commitment will have a

negative effect on employee's knowledge sharing behavior, iv) Organizational citizenship behavior will have a positive effect on employees' knowledge sharing behavior, v) Job involvement will have a positive effect on employees' knowledge sharing behavior when organizational citizenship behavior mediates the relationship, vi) Job satisfaction will have a positive effect on employees' knowledge sharing behavior when organizational citizenship behavior mediates the relationship, and finally vii) Organizational commitment will have a negative effect on employees' knowledge sharing behavior when organizational citizenship behavior mediates the relationship . The results of their study show that job involvement, job satisfaction and organizational citizenship behavior are independent and positively related to employees' knowledge sharing behavior and organizational commitment has a negative relationship with knowledge sharing behavior. Organizational citizenship behavior (OCB) was found to be a non-mediator between job involvement, job satisfaction, organizational commitment and knowledge sharing behavior. The finding of their study further indicate that employees are motivated to share knowledge when they experience higher job involvement and job satisfaction. Their study made two distinct additions to the organizational behavior and knowledge sharing literature: firstly, job attitudes appear to be significantly related to knowledge sharing behavior, addressing a research gap in the literature of knowledge sharing and employee attitudes (Teh & Sun, 2012). Secondly, organizational citizenship behavior directly affects knowledge sharing but it does not mediate employees' job attitudes to promote knowledge sharing behavior (Teh & Sun, 2012).

Lee-Kelley, Blackman, and Hurst (2007) demonstrated a relationship between learning organization theory and the potential to retain knowledge workers. The authors investigated the practices and elements of learning organization models that are related to voluntary turnover as mediated through job satisfaction. The relationship between learning organization theory and the potential to retain knowledge workers can be achieved by understanding how learning organizations' elements are related to the job satisfaction facets of comfort, challenges, reward and relations with co-workers, which are important in determining the turnover intention. The results of their study provide empirical evidence of a link between learning organization disciplines and job satisfaction facets and between job satisfaction facets and turnover intention, which implies that organizations must aim to manage these elements and supports the arguments for introducing learning organization disciplines. Four job satisfaction facets, in

particular identified by Lee-Kelley, Blackman, and Hurst (2007) as important, are: comfort, challenge, reward and relations with co-workers. All of these are affected, in one way or another, by the learning organization elements. To reduce turnover intention, authors suggested the following strategies for HR and line managers:

i. Linking shared vision, challenges and systems thinking together via personal mastery. Personal mastery needs to be adopted as the way to link HR strategies pertaining to challenge, sharing vision and developing holistic systems throughout the organizations, and the focus of the organizations should be on developing, supporting, and recognizing personal mastery for the knowledge workers in developing reward and performance system.

ii. Being more critical of which mental models are developed. Mental models need to be actively developed and managed in a way that will support the recognition and reward of knowledge workers. The suggested applied examples enable the development of shared mental models, which actively recognize the role and importance of knowledge within the organization and act as a way of developing a culture of respect for the knowledge workers.

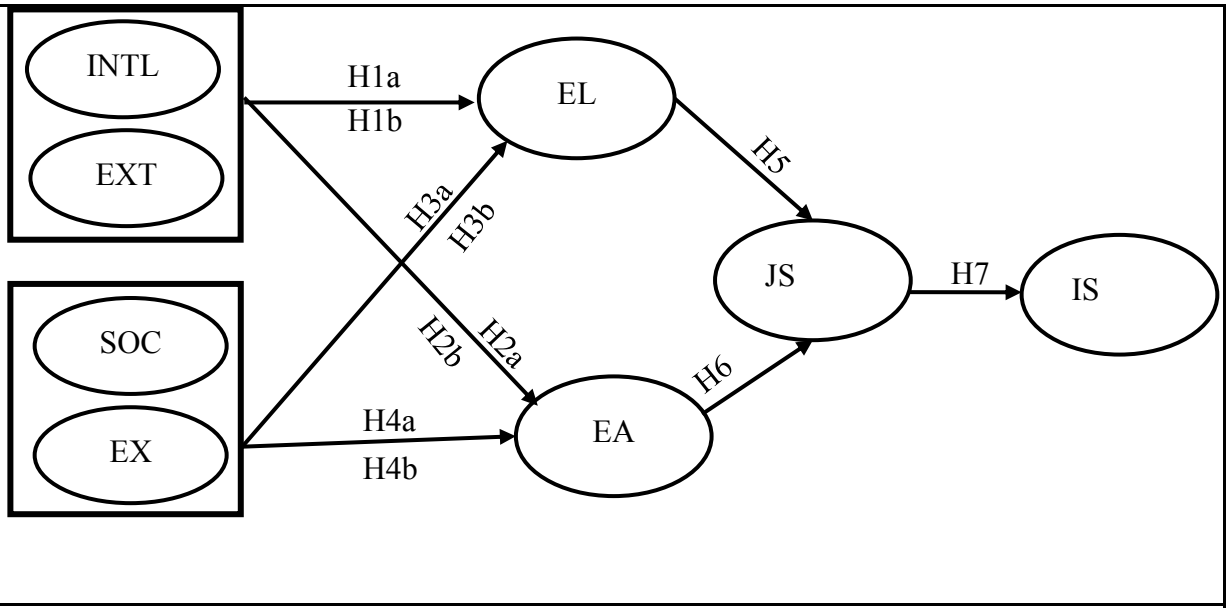
iii. Developing team learning systems throughout the organization. HR managers are encouraged to actively plan to develop team skills if they are required, as they are less likely to emerge involuntarily.

Singh and Sharma (2011) examined knowledge management antecedents and its impact on employee satisfaction in Indian telecommunication industries. They developed a survey instruments comprising organizational culture, organizational learning, KM orientation and employee satisfaction. The findings of their research indicate that there is a positive correlation between knowledge management and employee satisfaction. Their findings further show that the employee satisfaction increases with the increase in the organizational culture and learning behavior enabled KM practices.

CHAPTER 3

RESEARCH MODEL AND HYPOTHESES

As it has been elucidated above in chapter 1, the aim of this research study is to primarily study the relationship between internalization and externalization sub processes of knowledge capture, socialization and exchange sub processes of knowledge sharing, and their impact of people in an organization in terms of learning, adaptability and job satisfaction as well as employee's intention to stay in the context of Bangladesh. The research model is shown in the following figure:



Note: EA= Employee Adaptability, EL= Employee Learning, EX= Exchange, EXT= Externalization, INTL= Internalization, IS= Intention to Stay, JS = Job Satisfaction, SOC = Socialization

Figure 1: Conceptual Model

Literature review shows that there is not only a dearth of studies related to the impact of knowledge management and its impact on people, but there is an absence of empirical research that examined the role of internalization and externalization sub processes of knowledge capture and socialization as well as exchange sub processes of knowledge sharing on employee learning, adaptability, job satisfaction and intention to stay in an organization in the context of Bangladesh. Knowledge capture elicits explicit or tacit knowledge from people, artifacts or organizational entities and rely on mechanisms and technologies to support externalization and internalization (Becerra-Fernandez, Gonzalez, & Sabherwal, 2004). Explicit knowledge refers to knowledge that has been expressed into words, numbers, symbols and diagrams. So, explicit knowledge is articulated, codified and communicated in symbolic form and /or natural language. Tacit knowledge on the other hand includes insights, intuitions and hunches. Tacit knowledge can be comprised of both cognitive and technical elements. The cognitive element refers to an individual's mental models consisting of mental maps, beliefs, paradigms, and viewpoints. The technical component consists of concrete know-how, crafts, and skills that apply to a specific context. Dalkir (2001) reiterated the need for a knowledge base that must be populated and contents deployed in order to maximize efficiency and effectiveness throughout the organization. Knowledge capture can take place through externalization and internationalization. In externalization, tacit knowledge is converted to explicit knowledge and through internalization sub process, explicit knowledge is converted in to tacit knowledge (Becerra-Fernandez, Gonzalez, & Sabherwal, 2004). For example, when a team is asked to prepare a report on lessons learned from a project, the team members externalize their tacit knowledge acquired during the project. This knowledge can then be internalized by another employee when working on a later related project. Knowledge of employees in an organization is the base that ensures core competencies that help improve the efficiency of the employees and reduce the overall costs of the organization (Davenport & Prusak, 1998). Employees with inadequate knowledge of the organization's products–will increase the overall costs of the organization (Benton, 2014). Therefore, Knowledge management through externalization and internalization can enhance employee learning. Based on this, this study hypothesizes that:

$H1_a$: High Internalization leads to enhanced employee learning.

$H1_b$: High externalization leads to enhanced employee learning.

Knowledge management in an organization, in general, encourages its employees to continually learn from each other, and they are likely to possess the information and knowledge needed to adapt whenever organizational circumstances so require (Becerra-Fernandez, Gonzalez, & Sabherwal, 2004). Learning allows employees to grow constantly and change in response to the market and the technology and by doing so; it causes employees to be more flexible. Once the quest for learning new things among employees is instilled and they start adapting based on the new knowledge, it will enable effective organizational performance by making it possible for people to handle situations in ways that are in the organization's best interest. So, understanding the knowledge, competence, expertise, as well as skills help an employee to adapt to the new knowledge (Becerra-Fernandez, Gonzalez, & Sabherwal, 2004). When employees are aware of ongoing and potential future changes, they are less likely to be caught by surprise. Awareness of new ideas and involvement in free-flowing discussion not only prepare them to respond changes, but also make them more likely to accept change (Becerra-Fernandez, Gonzalez, & Sabherwal, 2004). Employees are likely to adapt, accept change, and prepare to respond to changes when they interact with each other. Increased employee adaptability can make an organization as a fast-changing organization. So, KM efforts are intended to continually expose employees to new ideas and making employees ready for changes as they are in touch with latest ideas and development. Thus, this study hypothesizes that:

H2a: High Internalization facilitates employee adaptability.

H2b: High externalization facilitates employee adaptability.

According to Becerra-Fernandez et.al (2004), knowledge sharing is the process through which explicit and tacit knowledge is communicated to other individuals. Knowledge sharing basically involves effective transfer. Knowledge that is possessed by one entity is effectively transferred to another entity. Knowledge sharing can take place across individuals, groups, departments, or organizations. Knowledge sharing can happen through socialization and exchange. Socialization helps individuals acquire knowledge through meetings and informal conversations. Through socialization, sub process tacit knowledge is shared or transferred between individuals and through exchange sub process, explicit knowledge is transferred between individuals. Tacit knowledge forms the background necessary for assigning the

structure to develop and interpret explicit knowledge (Polanyi, 1996).The inextricable linkage of tacit and explicit knowledge suggests that only individuals with a requisite level of shared knowledge can truly exchange knowledge. So, sharing tacit knowledge such as: insights, intuitions and hunches in the form of cognitive and technical elements and explicit knowledge that is expressed into words, numbers, symbols, and diagrams in symbolic form or/and natural language can improve employee learning. The process of effective learning by way of sharing information and knowledge among organizational members, enables individuals and organizations to reflect on the consequences of their behaviors and actions, to obtain insights from an environment where they operate, to understand the environment, and hence to interpret the meaning and react to it in more accurate approaches (Jones, Herschel, & Moesel, 2003). Thus, this study hypothesizes that:

H3a: High Socialization facilitates employee learning.

H3b: High Exchange facilitates employee learning.

As it has been stated earlier knowledge, sharing supports the process through which explicit or implicit knowledge is communicated to other individuals through socialization and exchange sub processes. Discussion groups or chat groups may facilitate knowledge sharing by enabling individuals to explain their knowledge to the rest of the group. Today, the creation and application of new knowledge is essential to the survival of almost all businesses. Ideas, processes, information are taking a growing share of global trade than tangible goods of the manufacturing company and innovation or the application of new knowledge is increasingly becoming the only sustainable competitive advantage (Gurteen, 1999). In knowledge sharing, there is complete and effective transfer of knowledge from one entity to another entity and there is assimilation of knowledge in the receiving entity. So, in knowledge transfer, knowledge is shared and transferred. Knowledge sharing through socialization and exchange does not only enrich knowledge of an employee, it also helps an organization to meet its business objectives. As a continuous process, people join an organization, work for the organization, and then at some point leave the organization and when someone leaves an organization their knowledge walks out of the door with them (Gurteen, 1999). The more time and employee spends an organization, the more this loss can be noticed (Suliman & Al-Hosani, 2014) . Knowledge management mechanism facilitating socialization includes employee rotation across

departments, conferences, brainstorming retreats, cooperative projects and the knowledge management technologies that could facilitate socialization include video-conferencing, electronic discussion groups, and e-mail. Exchange sub process that can be facilitated by knowledge management mechanisms include memos, manuals, letters and presentations and the knowledge management technologies through which exchange sub process can be materialized include team collaboration tools, web-based access to data, databases, repositories of information, best practices databases, lessons learned systems, and decision support systems (Becerra-Fernandez, Gonzalez, & Sabherwal, 2004). Sharing the knowledge and the process of interpretation after learning the knowledge will determine whether that information and knowledge sharing will be useful and valuable. Knowledge sharing enables managers to keep the individual learning flowing throughout the company and integrate it for practical applications. In addition, people within an organization, by way of sharing their thoughts, beliefs, knowledge and experience, mutually establish their common understandings. These practical applications and common understandings are organizational knowledge. This results not only in the enhancement of employees' capabilities, but also the contribution to overall organizational effectiveness and bottom-line profit (Yang, 2007). Sharing knowledge can continually expose employees to new ideas and ideas and developments can make employees ready for change. Therefore, improvement in skills and employees' adaptability of new knowledge and skills can increases their market value as well as can make an organization as fast changing organization. This study thus hypothesizes that:

H4a: High Socialization facilitates employee adaptability.

H4b: High Exchange facilitates employee adaptability.

Employee learning is defined by Cheung (2011) as the activities that an employee engages in acquiring new knowledge and skills within his or her current job. Organization learning is also grounded in individual learning because employees engage in learning activities and develop the knowledge base for the cognitive system and shared memories, which lead to organizational learning. Employees may focus on learning for their own job, resulting in a knowledge base that focuses on a relatively narrow domain interest i.e. one's own job (Cheung,

2011) . Job satisfaction, on the other hand, is the level of contentment employees feel about their work, which can affect performance. This feeling is mainly based on an individual's perception of satisfaction. Job satisfaction can be influenced by among other things, a person's ability to complete a required task and obviously, knowledge is required to complete that task (Boundless. Defining Job Satisfaction., 2015). For any organization to flourish, it must be able to reduce the employee turnover rates. When a top performing employee is replaced by an inexperienced employee, it increases the average cost of the company in terms of lost productivity andincreased training cost, thereby reducing profit. Knowledge management can help employee learning in a variety of ways such as internalization and externalization, socialization and communities of practice. When KM processes encourage employee to learn from each other, they are likely to possess knowledge needed to adapt whenever organizational circumstances require them to. Being better prepared for change and more knowledgeable, employee job satisfaction is impacted, thereby reducing the turnover rate. Although it is sometimes difficult to quantity an employee's job satisfaction, this study hypothesizes that:

H5: Willingness to learn increases job satisfaction

Cullen et.al (2014) defined adaptability as an individual's ability, skill, disposition, willingness, and/or motivation, to change or fit different task, social, and environmental features. Cullen et.al (2014) argued that individual differences in adaptability predict the extent to which employees perceive organizational support for at least two reasons: i) adaptable employees are proactive in their approach and take responsibility for adjusting to the situation which includes learning the skills necessary to function efficiently, and ii) adaptable individuals are more likely to perceive situations in a positive light and are more sensitive to environmental

cues, which increases their ability to notice and appreciate even small supportive actions by their organizations. According to Murray (1999) as cited by Suliman and Al-Hosani (2014), researchers have attempted to correlate job satisfaction with performance, turnover and absenteeism - but the relationship between employee adaptability and job satisfaction in the knowledge management context have not been heavily discussed in the literature. The study conducted by Cross and Cummings (2004) cited by Trivellas et. al (2015) found that knowledge sharing described as ties and networks is related to individual performance in knowledge intensive work, and job performance and satisfaction is closely correlated as job attitude or work related outcomes. Empowering work environments that provide access to information, support, resources, and opportunity to learn and develop proved to influence employee work attitudes, such as job satisfaction (Spence, Fineman, & Sharmin, 2001). With this in mind, this study hypothesizes that:

H6: Employee adaptability facilitates job satisfaction.

Job satisfaction refers to the pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences (Bang, 2015). The organizational behavior literature is replete with both theoretical and empirical evidence that organizational commitment fully or partially mediates the relationship between job satisfaction and turnover intention (Preez & Bendixen, 2015). Turnover intention is defined as the intention of an organizational member to voluntarily quit the job and if individuals are not satisfied with their jobs, they are less likely to stay with the organizations, which eventually causes turnover (Bang, 2015). The opposite of turn over intention is the intention to stay that refers to the extent to which an employee intends to continue working for an organization and is not participating in activities that make quitting

more likely (Hair Jr., Black, Babin, & Anderson, 2010). Bang (2015) also argued that individuals do not volunteer for monetary support in nonprofit sport organizations because they are not paid for their services and as a result positive experiences in these organizations contribute to their satisfaction with volunteering and their increases job satisfaction has been posited as leading to increased intention to stay. Thus, this study hypothesizes that:

H7: Job satisfaction leads to intention to stay.

CHAPTER 4

METHODOLOGY, DATA COLLECTION AND ANALYSIS STRATEGY

Methodology

A survey has been developed to explore those research question elucidated above. All measures, including the performance measure, are based on respondents' perception. A questionnaire has been developed in that regard and it is primarily composed of following dimensions: internalization, externalization, socialization, exchange, learning, adaptability, job satisfaction and intention to stay. Reliability and validity tests have been conducted for each construct with measures. Cronbach Alpha (α) reliability estimates have been used to measure the internal consistency. To ensure that the instrument has reasonable construct validity, both exploratory and confirmatory factor analyses have also been used.

Operational Definition of Constructs

Internalization: Degree of tacit knowledge accumulation through personal experiences, simulations and experimentation.

Becerra-Fernandez, et al (2004) defines the translation of explicit knowledge into tacit knowledge as internalization. In internalization, the explicit knowledge is embodied in action and practice, so that the individual acquiring the knowledge can re-experience what others go through. Alternatively, individuals could acquire tacit knowledge in virtual situations, either by reading or by listening to others' stories, or through simulations or experiments. Therefore, internalization produces operational knowledge; i.e. learning by doing, on-the-job training, learning by observation, and face-to-face meetings. In internalization, an individual absorbs tacit knowledge through demonstrations and other means (Becerra-Fernandez, Gonzalez, & Sabherwal, 2004). Memorizing math functions, putting pieces together to create something, reading textbooks or white papers to learn from experts on a subject, are all forms of internalization (Swope, 2010). According to Nonaka et.al, (2001) internalization has two

dimensions: i) the incorporation of explicit knowledge through action and practice, and ii) the incorporation of explicit knowledge through experiments or simulations with similar effects to those of learning by doing (Lopez-Saez, Navas-Lopez, Martin-de-Castro, & Cruz-Gonzalez, 2010).

Externalization: Degree of articulating tacit knowledge (Ideas or images) in the form of words, concepts, visuals, or figurative language (e.g. analogies, metaphors, narratives).

Becerra-Fernandez, et al (2004) defines the conversion of tacit knowledge to explicit knowledge as externalization. Externalization is the difficult task of articulating tacit knowledge in the form of analogies, concepts, metaphors or model (Becerra-Fernandez, Gonzalez, & Sabherwal, 2004) . Gathering knowledge that was learned by an individual through one's own unique experiences, and attempting to express that into terms that can be codified and input into a system. Breaking the knowledge into pieces that can fit within a rule structure often requires too much time and effort to be viewed as productive (Swope, 2010) . As pointed out by Nonaka, Toyama and Byosiere (2001) and cited in Juceviciene & Mazaliauskiene (2013) externalization is the key to knowledge creation because it creates new explicit concepts from tacit knowledge. Externalization is the phase that is characterized by a high motivation. The effectiveness of externalization phase can be enforced by learning and motivation (Juceviciene & Mazaliauskiene, 2013).

Socialization: Degree of tacit knowledge sharing between individuals through social interaction related to the task and task efficiency.

Socialization plays an important role in the transition of knowledge. According to Alavi and Leidner (2001), socialization refers to the process involving the conversion to tacit knowledge through social interactions. Socialization involves the sharing of tacit knowledge between individuals and it helps exchange knowledge through joint activities, such as being together in the same environment, rather than through written or verbal form. By transferring ideas and images, apprenticeships allow newcomers to see the way others think and feel. Knowledge is produced in a group setting, not only through mere acquisition of the individuals' knowledge, but also through the sharing of common understanding, which helps synergize the

individual's knowledge (Sabherwal & Becerra-Fernandez, 2003 quoted from Nonaka, 1994). Morrison and Feldman argued that organization, by providing or withholding information in a particular way, could affect the newcomer's behavioral outcome. In order to ease the transition, organizations often employ socialization practices to help new hires learn the desired values and behavioral norms. Thus, organizational socialization involves the process in which new members undergo learning the ropes, being taught what is important and what is expected in the organization, acquiring appropriate role behaviors, and adjusting to the group's norms and values (as cited in King, Xia, & James, 2005).

Exchange: Degree of sharing explicit knowledge among individuals, groups, departments or organizations.

Becerra-Fernandez et al (2004) described knowledge sharing as the process through which explicit and tacit knowledge is communicated to other individuals and the authors referred explicit knowledge sharing as exchange. Knowledge sharing can occur across individuals as well as across groups, departments, or organizations. Exchange, unlike socialization, focuses on the sharing of explicit knowledge and is used to communicate or transfer explicit knowledge among individuals, groups, and organizations. In its basic nature, the process of exchange of explicit knowledge does not differ from the process through which information is communicated (Becerra-Fernandez, Gonzalez, & Sabherwal, 2004) .

Employee Learning: Degree of opportunity, variety, satisfaction, and encouragement for learning and development in organization.

Learning is the acquisition of new knowledge by employee who are able and willing to apply that knowledge in making decisions or influencing others.

Employee Adaptability: Degree to which employees accept change based on organizational circumstances.

When employees are aware of ongoing and potential future changes, they are less likely to be caught by surprise. Awareness of new ideas and involvement in free-flowing discussions

not only prepare them to respond to changes, but also make them more likely to accept change (Becerra-Fernandez, Gonzalez, & Sabherwal, 2004).

Job Satisfaction: Degree to which employees' reaction result from an appraisal of one's job situation.

Intention to Stay: The extent to which an employee intends to continue working for an organization and is not participating in activities that make quitting more likely.

Table 1: Indicators (Survey items)

Internalization	
INTL1	I believe learning by continuous self-refinement through on the job training can help accumulate tacit knowledge
INTL2	I share and try to understand management visions through communications with other employees
INTL3	I agree that learning by doing (which means that written procedures and rules/practices have to be carried through action), training and exercises allow the individual to access the knowledge dominion of the organization.
INTL4	I collect tacit knowledge (Belief, perception, point of view) by increasing the use of formal knowledge (explicit knowledge) in real life or computer-generated applications.
INTL5	I can use the knowledge repository (Internet/Database/Library) to obtain knowledge for my job.
Externalization	
EXT1	I believe my organization recognize contradiction through metaphor/symbol and resolve them through analogy.
EXT2	I agree with the notion that my organization encourages dialogue, "Listening and contributing to the benefit of all participants' within the organization.
EXT3	I produce and document/record concepts in by screening ideas from others.
EXT4	For the efficiency and effectiveness of my work, I record/ document subjective opinions of other employees of my organization.
EXT5	I capture and translate tacit knowledge (ideas, beliefs, perception) of customers or experts into readily understandable forms (write them down or record them).
EXT6	I create manuals/handbooks/booklets and documents on products and services

Socialization	
SOC1	I share information and knowledge necessary for the tasks.
SOC2	I improve task efficiency by sharing information and knowledge.
SOC3	I promote sharing of information and knowledge with other teams in my organization.
SOC4	I promote and organize brainstorming retreats or camps for knowledge sharing to solve problem
SOC5	I believe employee rotation across areas for knowledge seeking and sharing should be encouraged.
SOC6	I believe employees from various functional units should work together to achieve a common goal.
Exchange	
EX1	I use information systems, like intranet and electronic bulletin boards developed by my organization to share information and knowledge with other employees.
EX2	I use repositories of information (database), best practices, and lessons learned to share explicit knowledge related to the task.
EX3	I prefer to exchange explicit knowledge through computerized communication networks (Social Media).
EX4	I am happy the way my organization uses Memos, manuals, letters and presentations to share information with employees.
EX5	My Company creates/produces materials by gathering management figures and technical information to share with employees.
EX6	I feel the need for reconfiguration of existing documents through sorting, adding, combining and categorizing of explicit knowledge.
Employee Learning	
EL1	I get various formal training programs for performance of duties provided by my organization.
EL2	I receive informal individual development other than formal training such as work assignments and job rotation provided by my organization.
EL3	Employees are encouraged to seek professional development (attending seminars, symposia, and so on).
EL4	I consider employees' development through learning as a key to success rather than a cost to the organization.
EL5	I am continuously learning and trying to improve myself.
Employee Adaptability	
EA1	I am able to take on new tasks.

EA2	I can step in for co-workers when needed.
EA3	I consider myself effective in adjusting to changes.
EA4	I am open to doing things in a new way.
EA5	My organization encourages employees to adjust to changing situations through innovation and creativity.
Job Satisfaction[1]	
JS1	All things considered, I feel very satisfied when I think about my job
JS2	I am made to feel that I am an important part of the company.
JS3	I have good working relationships with my co-workers.
JS4	I enjoy working in this organization.
JS5	My job is rewarding/ I get a sense of personal accomplishment from my work
Intention to Stay[2]	
IS1	I am not actively searching for another job.
IS2	I seldom look at the job listings online.
IS3	I have no interest in searching for a job in the next year.
IS4	It is very likely that I will be working at my company one year from today?

Data Collection and Analysis Strategy

The purpose of this research is to determine if there is a relationship between internalization and externalization of knowledge capture as well as socialization and exchange of knowledge sharing with employee learning, adaptability, and job satisfaction and whether job satisfaction is related to employee's intention to stay. The research strategy adopted in this study was deductive in nature. By reviewing the relevant literature, the tentative theory was first derived. The hypotheses are then deducted and tested from the data collection through questionnaire survey. This research used a one-time survey to obtain research data. This research was conducted using a purposive sample from eight financial services firms operating in Bangladesh. A five-point Likert scale has been used for questionnaire design. A structured

[1] Adopted from Hair Jr., J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis.* Upper Saddle River, NJ: Prentice Hall, (p. 694).

[2] Ibid.

survey questionnaire was administered to employees: mainly top-level management, middle level management and bottom level management or the operational employees who are the key decision-makers with regard to capturing and sharing knowledge through the processes of internalization, externalization, socialization, and exchange. The respondents' anonymity in the questionnaire survey have been maintained to ensure unbiased responses to get true reflections of respondent's attitudes towards those constructs mentioned above.

The partial least squares (PLS) approach using Smart PLS has been used to test the proposed model. The PLS factorial validity of the measurement model deals with whether the pattern of loadings of the measurement items corresponds to the theoretically anticipated factors (Gefen & Straub, 2005) . Using the bootstrapping algorithm of PLS, the structural model has been tested to see whether it is statistically significant. The reasons for using PLS are as follows (Zack, Mckeen, & Singh, 2009): PLS has the ability to handle the research model with formative and reflective constructs, complex models, less stringent data requirements, and does not require multivariate normality distributions for the underlying data. With PLS, the psychometric properties of the scales used to measure constructs are tested and the strengths and directions of the pre-specified relationships are analyzed simultaneously using a combination of principal components analysis, path analysis, and regression (Gefen & Straub, 2005). The decision to use partial least square (PLS) using SmartPLS was due to the following reasons: i) PLS is effective for early-theory andii) PLS requires fewer statistical specifications and constraints on the data (Park, Cho, & Rao, 2015) .

Descriptive analysis has been used to provide a demographic profile of the organizations and respondents. This data will provide information regarding the respondents' age, education, gender, rank, and years of service. Inferential analysis will be used to reject or accept the null hypotheses. The research questions studying the relationships between knowledge capture, knowledge sharing and employee learning, employee adaptability, job satisfaction, intention to stay have been established using standard statistical measures.

Reliability and validity tests have been conducted for each construct with measures. Reliability is a measure of the degree to which a set of indicators of a latent construct is internally consistent based on how highly interrelated the indicators are with each other. As reliability goes up, the relationship between a construct and the indicators are greater, meaning that construct explains more of the variance in each indicator and the amount of measurement

error decreases (Hair et al., 2010). Two estimates of reliability are the Cronbach's alpha and the composite reliability. Cronbach's Alpha (α) reliability estimates will be used to measure the internal consistency. Cronbach's α (Alpha) is used to analyze the degree of internal consistency among items in variable. To ensure that the instrument has reasonable construct validity, confirmatory factor analyses with the help of SmartPLS has been used.

CHAPTER 5

DATA ANALYSIS AND RESULTS

Sample Description

The sample for this study consisted of 254 respondents from 23 different branches of eight commercial banks namely: Mutual Trust bank, BASIC Bank, Arab Bangladesh Bank, Dutch Bangla Bank, Shahjalal Islami Bank, United Commercial Bank Limited, Premier Bank and Meghna Bank in Bangladesh. For the survey, the respondents indicated their agreement or disagreement with statement concerning each construct. The scale for the survey was a 5-point Likert scale. Every organization under study has over 100 employees. The respondents were from many different departments, including Finance, Customer Service, Information Systems, Human Resources, Administration etc. Out of 300 questionnaires, 254 were returned and this represented 84.66% of returned questionnaires.

Demographic Data

The demographic characteristics of the sample included age, education, gender, rank, number of promotions, years of service, and type of organization as shown in table 2.

Table 2: Demographic Characteristics (N = 254)

Gender	Age	Education
Male: 190 (74.8%)	<=30 Years: 52 (20.5%)	Graduate: 254 (100.0%)
Female: 64 (25.2%)	31-40 Years: 169 (66.5%)	
	41-50 Years: 29 (11.4%)	
	>50 Years: 4 (1.6%)	
Job Rank	**Years of Service**	**Business Unit**
Senior Management: 8 (3.2%)	0 - 1 Year: 44 (17.3%)	Information System: 6 (2.3%)
Middle Management: 126 (49.6%)	2 - 3 Years: 99 (39.0%)	Finance: 111 (43.7%)
Technical Staff: 31 (12.2%)	4 -6 Years: 57 (22.5%)	HRM: 7 (2.8%)
Support Staff: 89 (35.0%)	>= 7 Years: 54 (21.2%)	Customer Service: 66 (26.0%)
		Administration: 17 (6.7%)
		Others: 47 (18.5%)

In this study among the respondents, the majority were male 75% and female 25%. As far as the distribution of age among respondents are concerned, the majority of the respondents (66.5%) were in the age group of 31 to 40 years old. 20.5 percent of the respondents were 30 years or below, 11.5 percent in the age group of 41-50 years old and 1.5 percent respondents were above 50 years old. It may also be mentioned here that all the respondents in this study have a Graduate Degree. As for job ranking, the majority of the respondents in this study were middle management staff (49.5%). The second largest were support staff (35%) followed by technical staff (12.5%) and senior management staff (3%). When asked about the years of service in their respective organization, 39 percent respondents have been with their organization for 2 to 3 years, followed by 22.5% for 4 to 6 years 21% for over 7 years and 17.5% of the respondents have been with their respective organization for one year or less. When it comes to respondents' business unit, the, majority of the surveyed respondents were

from Finance (44%), followed by Customer service (26%), Others (18%), Administration (7%), HRM (3%) and Information system (2%).

Factorial Validity:

The purpose of the factorial validity is the same as in any examination of the validity of constructs that is to show that constructs that are posited to be made up of certain measurement items are indeed made of those items and not made up of items posited to be part of another construct (Gefen & Straub, 2005). So, in this study, for all the latent constructs that cannot be measured directly such as internalization, externalization, socialization, exchange, employee learning, employee adaptability, job satisfaction and intention to stay, factorial validity using smart PLS has been used to establish the validity of those constructs. The PLS algorithm is a reiterative approach and it performs a confirmatory factor analysis. According to Barclay et.al (1995), the PLS approach assesses measurement model parameters and structural path coefficients simultaneously and focuses on a prediction-oriented and data-analytic method, seeking to maximize the variances that are explained in constructs (cited in Park et.al 2015).

Measurement Model

A measurement theory specifies how measured variables logically and systematically represent constructs involved in a theoretical model. In other words, measurement theory specifies a series of relationships that suggest how measured variables represent a latent construct that is not measured directly ((Hair Jr., Black, Babin, & Anderson, 2010). The PLS factorial validity of the measurement model deals with whether the pattern of loadings of the measurement items corresponds to the theoretically anticipated factors (Gefen & Straub, 2005). Using Chin's (1998) approach, as cited in Bateman et.al (2011), this study tested the adequacy of the measurement model using three common tests of convergent validity. First, the PLS algorithm was run four times to drop items that loaded poorly. After the first run, seven items were dropped due to poor loadings (EL5, EX6, EXT6, INTL1, IS2, SOC5, SOC6). After the second run, three items were dropped due to poor loadings (EL4, EXT4, JS3) and after the third run, five items were found to have loaded poorly (EA5, EX3, EXT3, EXT5, INTL 3). All together fifteen items were dropped in four iterations until the loadings of all the remaining

items on their intended constructs were found to be 0.7 or greater. Second, the internal consistency of each construct was assessed using composite reliability and Cronbach alpha. Third, the average variance extracted (AVE) was calculated for each latent construct; and all constructs exceeded Chin's (1988) guideline of 0.5, meaning at least 50% of the variance in indicators was accounted for by its respective construct (as cited in Bateman, Gray, & Butler 2011). To determine the evidence of discriminant validity in the measurement model, there are two things that one must look at (Gefen & Straub, 2005) :

i. The correlation of the latent variable scores with the measurement items needs to show an appropriate pattern of loadings - one in which the measurement items load highly on their theoretical assigned factor and not highly on other factors.

ii. Establishing discriminant validity in PLS also requires an appropriate AVE (Average Variance extracted) analysis. In AVE analysis, the square root of every AVE (there is one for every latent construct) must be greater than any correlation among any pair of latent constructs.

Table 3: Factor loadings (1st iteration)

	EA	EL	EX	EXT	INTL	IS	JS	SOC
EA1	**0.7962**	0.4061	0.3389	0.3135	0.2691	0.1218	0.4139	0.3445
EA2	**0.7481**	0.364	0.3574	0.342	0.3724	0.1735	0.301	0.4355
EA3	**0.7442**	0.4195	0.3509	0.3382	0.3608	0.2084	0.4001	0.415
EA4	**0.8104**	0.4763	0.4348	0.3399	0.3906	0.1749	0.5222	0.4808
EA5	**0.6277**	0.5724	0.4306	0.4713	0.2749	0.3091	0.519	0.2774
EL1	0.3605	**0.6544**	0.4743	0.3678	0.2397	0.3105	0.4252	0.2932
EL2	0.3727	**0.7738**	0.5283	0.5133	0.3841	0.2031	0.3644	0.3292
EL3	0.4636	**0.8008**	0.5139	0.5109	0.3509	0.193	0.4995	0.3925
EL4	0.4697	**0.6252**	0.4039	0.4355	0.3579	0.1691	0.3254	0.464
EL5	0.4553	**0.5771**	0.2834	0.3385	0.3296	0.1677	0.3113	0.5168
EX1	0.3258	0.411	**0.6691**	0.373	0.2939	0.2958	0.341	0.2333
EX2	0.3976	0.4288	**0.7312**	0.3575	0.3604	0.1649	0.3273	0.398
EX3	0.3647	0.4168	**0.6722**	0.4175	0.3071	0.2453	0.4718	0.4086
EX4	0.2355	0.5382	**0.6822**	0.4837	0.3217	0.2968	0.4457	0.3114
EX5	0.3732	0.4993	**0.7563**	0.4594	0.3867	0.2677	0.4618	0.3613
EX6	0.4111	0.2996	**0.5094**	0.3172	0.3262	0.1892	0.2638	0.3758
EXT1	0.2787	0.4928	0.3974	**0.6772**	0.2805	0.2945	0.2952	0.2745
EXT2	0.399	0.5443	0.4524	**0.7327**	0.3449	0.2965	0.4192	0.3117
EXT3	0.2662	0.3565	0.3434	**0.6192**	0.4188	0.2975	0.2353	0.3938
EXT4	0.384	0.3595	0.389	**0.6012**	0.4532	0.2021	0.3484	0.3839

EXT5	0.3149	0.2928	0.344	**0.696**	0.4169	0.3181	0.3232	0.4037
EXT6	0.2463	0.3719	0.4065	**0.5923**	0.329	0.2697	0.3397	0.3752
INTL1	0.254	0.3205	0.2353	0.308	**0.5979**	0.1881	0.2224	0.2749
INTL2	0.3113	0.3242	0.3244	0.3995	**0.674**	0.0738	0.2209	0.4041
INTL3	0.2899	0.3033	0.2205	0.3347	**0.6275**	0.2454	0.1576	0.407
INTL4	0.301	0.2879	0.3827	0.4103	**0.726**	0.2588	0.2237	0.3456
INTL5	0.3322	0.3555	0.4632	0.4094	**0.6983**	0.2126	0.3207	0.4738
IS1	0.1838	0.1866	0.2572	0.2996	0.2076	**0.7463**	0.2396	0.1864
IS2	0.0291	0.0277	0.109	0.0841	0.1938	**0.3241**	0.0382	0.1254
IS3	0.1994	0.2719	0.3191	0.4028	0.1844	**0.8414**	0.3114	0.1461
IS4	0.2689	0.2719	0.3021	0.3376	0.2965	**0.8483**	0.3634	0.2398
JS1	0.3625	0.3961	0.3959	0.3735	0.1961	0.3559	**0.7501**	0.2251
JS2	0.438	0.4145	0.5518	0.4493	0.2721	0.3107	**0.7981**	0.3207
JS3	0.4648	0.3772	0.3915	0.2984	0.3349	0.1265	**0.6017**	0.4532
JS4	0.4885	0.4836	0.3889	0.3603	0.2502	0.2796	**0.8024**	0.3658
JS5	0.5092	0.4794	0.4801	0.4457	0.2931	0.3511	**0.8568**	0.346
SOC1	0.3821	0.4466	0.4332	0.3967	0.4651	0.1622	0.3071	**0.7951**
SOC2	0.5003	0.4791	0.4057	0.3994	0.4057	0.185	0.3963	**0.8317**
SOC3	0.3958	0.4696	0.4585	0.4465	0.4895	0.1793	0.3379	**0.7954**
SOC4	0.3802	0.4053	0.4454	0.5023	0.4855	0.2546	0.373	**0.7016**
SOC5	0.2459	0.2935	0.2015	0.2439	0.2588	0.1139	0.1979	**0.584**
SOC6	0.321	0.3143	0.2248	0.2787	0.3685	0.1253	0.2562	**0.5776**

Table 4: Average Variance Extracted (AVE)-1st iteration

	AVE
EA	0.5596
EL	0.4784
EX	0.4552
EXT	0.4293
INTL	0.4441
IS	0.5224
JS	0.5879
SOC	0.5206

Table 3 shows the measurement items loaded with each construct with a PLS algorithm. As it is shown in Table 3, there are 8 constructs and 42 items. Out of 42 items, seven of them (EL5, EX6, EXT6, INTL1, IS2, SOC5, SOC6) are found to have loadings of less than 0.6 on their respective constructs. In addition to that, the Table 4 shows the AVE for four constructs (EL, EX, EXT, INTL) are below 0.5. As stated by Grefen and Straub (2005), the typical rule of

thumb is that if one of the measurement items or indicators loads with a 0.70 coefficient on its latent construct, then the loadings of all the measurement items on any latent construct but their own should be below 0.4. After the first iteration of PLS algorithm, those indicators where loadings are less than 0.6 on their intended constructs were dropped to evaluate whether it increases the values for other indicators. Therefore, after dropping those seven indicators from the model, PLS algorithm was run on SmartPLS with the remaining 35 indicators or measurement items connected with the same eight constructs.

Table 5: Factor loadings (2nd iteration)

	EA	EL	EX	EXT	INTL	IS	JS	SOC
EA1	**0.7926**	0.368	0.2951	0.2971	0.2601	0.1222	0.4128	0.32
EA2	**0.7426**	0.3104	0.2942	0.3545	0.3628	0.1747	0.2998	0.3928
EA3	**0.7449**	0.3739	0.327	0.3572	0.3413	0.2134	0.3982	0.3997
EA4	**0.8087**	0.4249	0.3849	0.338	0.3923	0.1742	0.5206	0.4785
EA5	**0.6361**	0.5798	0.4277	0.4617	0.2674	0.3131	0.5201	0.3082
EL1	0.3637	**0.7116**	0.4841	0.3675	0.2139	0.312	0.4258	0.3127
EL2	0.3755	**0.828**	0.5492	0.5129	0.3613	0.2084	0.3651	0.3483
EL3	0.468	**0.8237**	0.5279	0.4973	0.3367	0.1944	0.4995	0.3948
EL4	0.4682	**0.5567**	0.3649	0.4271	0.3504	0.1675	0.3235	0.4202
EX1	0.3278	0.4265	**0.6853**	0.3791	0.2847	0.2987	0.3416	0.2751
EX2	0.3976	0.4368	**0.7454**	0.3498	0.3556	0.1612	0.3276	0.42
EX3	0.365	0.3982	**0.6523**	0.3862	0.3173	0.248	0.4723	0.4223
EX4	0.2381	0.5691	**0.7213**	0.4706	0.3	0.2971	0.4462	0.3134
EX5	0.3755	0.524	**0.7816**	0.4407	0.3942	0.2677	0.4626	0.3612
EXT1	0.2814	0.503	0.417	**0.7115**	0.2644	0.2968	0.2965	0.3038
EXT2	0.4017	0.5613	0.4688	**0.7721**	0.3202	0.3023	0.4198	0.3063
EXT3	0.2674	0.3363	0.323	**0.6334**	0.4056	0.2963	0.2351	0.3957
EXT4	0.3829	0.3375	0.3503	**0.6067**	0.4646	0.2006	0.3479	0.349
EXT5	0.316	0.2539	0.3189	**0.6509**	0.4254	0.3181	0.3233	0.4027
INTL2	0.3118	0.3055	0.3084	0.408	**0.6974**	0.0695	0.2196	0.4008
INTL3	0.2895	0.2751	0.1891	0.3194	**0.6126**	0.2425	0.1566	0.3762
INTL4	0.3016	0.276	0.3427	0.3928	**0.762**	0.259	0.224	0.3481
INTL5	0.3318	0.3426	0.4441	0.3872	**0.7479**	0.2054	0.3208	0.4558
IS1	0.1848	0.1753	0.2398	0.301	0.1796	**0.7439**	0.2406	0.1838
IS3	0.2018	0.287	0.3321	0.3949	0.1624	**0.8444**	0.3127	0.144
IS4	0.2707	0.2533	0.2862	0.3148	0.3039	**0.8497**	0.3637	0.2429
JS1	0.3657	0.407	0.4071	0.3576	0.1588	0.359	**0.7531**	0.231
JS2	0.4401	0.4405	0.5573	0.422	0.2894	0.3129	**0.802**	0.3299
JS3	0.4635	0.3449	0.3686	0.2868	0.3169	0.1258	**0.5967**	0.4158

JS4	0.4907	0.4415	0.393	0.346	0.2314	0.2859	**0.7994**	0.3719
JS5	0.5122	0.4732	0.4594	0.4375	0.2851	0.354	**0.8572**	0.3396
SOC1	0.381	0.3959	0.405	0.3853	0.4575	0.1601	0.305	**0.8089**
SOC2	0.5004	0.4018	0.3837	0.3885	0.4068	0.183	0.3942	**0.8487**
SOC3	0.3962	0.4285	0.4337	0.4086	0.4886	0.1768	0.3364	**0.8333**
SOC4	0.3814	0.3881	0.3984	0.4525	0.4834	0.2509	0.374	**0.7534**

Table 6: Average Variance Extracted (AVE)-2ndt iteration

	AVE
EA	0.5586
EL	0.5451
EX	0.5164
EXT	0.459
INTL	0.5004
IS	0.6628
JS	0.588
SOC	0.6592

As it is shown in Table 5.three measurement items or indicators (EL4, EXT4, JS3) after the 2nd iteration of PLS algorithm still load very poorly on their intended constructs. One improvement after the 2nd iterations of PLS algorithm is in the Average Variance Extracted (AVE) where for only one construct (EXT) AVE value turns out to be less than below the threshold point of 0.5 (Table 6).

Table 7: Factor Loadings (3rd iteration)

	EA	**EL**	**EX**	**EXT**	**INTL**	**IS**	**JS**	**SOC**
EA1	**0.7875**	0.2943	0.2905	0.242	0.26	0.1212	0.3764	0.32
EA2	**0.7343**	0.2226	0.2924	0.2934	0.3623	0.1727	0.252	0.3918
EA3	**0.7416**	0.3115	0.3234	0.3216	0.3417	0.2111	0.3541	0.3992
EA4	**0.8057**	0.3523	0.3816	0.2911	0.39	0.1729	0.4773	0.4784
EA5	**0.6517**	0.5972	0.4305	0.4785	0.2683	0.3129	0.5441	0.3095
EL1	0.37	**0.7816**	0.4874	0.3767	0.2137	0.3124	0.4302	0.3136
EL2	0.3803	**0.8466**	0.5515	0.5085	0.3607	0.2098	0.3606	0.3488
EL3	0.4759	**0.8326**	0.5318	0.5076	0.3369	0.1958	0.4951	0.3949
EX1	0.3309	0.413	**0.6818**	0.4047	0.2847	0.2996	0.3339	0.2753
EX2	0.3972	0.3853	**0.7359**	0.321	0.3548	0.1617	0.2992	0.4194
EX3	0.3655	0.346	**0.6414**	0.3427	0.3168	0.2483	0.4593	0.4234
EX4	0.2433	0.5808	**0.7328**	0.463	0.2984	0.2982	0.4376	0.3138

EX5	0.3795	0.536	**0.7906**	0.4192	0.3937	0.2684	0.4605	0.3613
EXT1	0.2867	0.4977	0.4185	**0.7733**	0.2642	0.2985	0.3109	0.3047
EXT2	0.4064	0.5438	0.4722	**0.834**	0.3197	0.305	0.4221	0.3067
EXT3	0.2684	0.2641	0.3215	**0.6216**	0.4061	0.2946	0.2346	0.3948
EXT5	0.3178	0.2144	0.3195	**0.6003**	0.4258	0.3209	0.3199	0.4042
INTL2	0.3121	0.2803	0.3077	0.3322	**0.7029**	0.0667	0.1909	0.401
INTL3	0.2887	0.2327	0.1888	0.3078	**0.6092**	0.2392	0.119	0.3761
INTL4	0.3023	0.2558	0.3422	0.3356	**0.7673**	0.2576	0.2191	0.3492
INTL5	0.331	0.2822	0.4441	0.3322	**0.7409**	0.2031	0.2949	0.4562
IS1	0.1868	0.1542	0.2403	0.2925	0.1794	**0.747**	0.2543	0.1842
IS3	0.2057	0.298	0.3339	0.4066	0.1618	**0.8547**	0.3464	0.1448
IS4	0.2734	0.2345	0.2875	0.3094	0.3029	**0.8383**	0.3624	0.2432
JS1	0.3717	0.4158	0.4083	0.3677	0.1587	0.3608	**0.7949**	0.2326
JS2	0.4439	0.4396	0.5564	0.3795	0.2883	0.3118	**0.8209**	0.3312
JS4	0.4938	0.401	0.3937	0.3322	0.2319	0.2855	**0.796**	0.3715
JS5	0.5178	0.4601	0.4606	0.418	0.2833	0.352	**0.8619**	0.3399
SOC1	0.3784	0.3253	0.4029	0.3539	0.4563	0.1581	0.2593	**0.8042**
SOC2	0.5003	0.3308	0.3804	0.3575	0.405	0.1797	0.3373	**0.847**
SOC3	0.3961	0.3923	0.4319	0.37	0.4873	0.176	0.3068	**0.8356**
SOC4	0.3834	0.3543	0.3954	0.4305	0.4835	0.2495	0.3613	**0.7577**

Table 8: Average Variance Extracted (AVE) - 3rd iteration

Constructs	AVE
EA	0.5566
EL	0.6736
EX	0.516
EXT	0.5101
INTL	0.5007
IS	0.6637
JS	0.6706
SOC	0.6591

So, the items that are loaded with poor values (<=0.6) were dropped in the third iteration of PLS algorithm. With those droppings, 10 indicators were dropped out of 45 indicators. Even though some indicators loaded with less than 0.7 on their respective constructs were not been dropped earlier, there was a little fluctuation in their loadings after every iteration. There remain still five indictors (EA5, EX3, EXT3, EXT5, INTL 3) that are found to have loaded poorly on their intended constructs after the third iteration of PLS algorithm (Table 7). Even though there

are still five indicators loading poorly after the third iteration of PLS algorithm, the AVE values for all the constructs seem to be above 0.5 (Table 8).

Table 9: Factor Loadings (4th iteration)

	EA	EL	EX	EXT	INTL	IS	JS	SOC
EA1	**0.8142**	0.294	0.2612	0.2292	0.2259	0.1212	0.3764	0.3195
EA2	**0.7973**	0.2227	0.2789	0.2418	0.3308	0.1727	0.2521	0.3927
EA3	**0.7614**	0.3116	0.3014	0.2644	0.3128	0.2111	0.3544	0.3998
EA4	**0.8433**	0.3515	0.3394	0.2343	0.3834	0.1729	0.4772	0.4781
EL1	0.268	**0.7809**	0.4882	0.405	0.2073	0.3124	0.4301	0.3132
EL2	0.2939	**0.8492**	0.5638	0.5419	0.327	0.2098	0.3609	0.3484
EL3	0.3507	**0.8308**	0.5258	0.5187	0.3288	0.1958	0.4948	0.3943
EX1	0.2717	0.4134	**0.6957**	0.4139	0.2755	0.2996	0.3342	0.2747
EX2	0.388	0.386	**0.7436**	0.2923	0.3617	0.1617	0.2996	0.4204
EX4	0.1583	0.5806	**0.7676**	0.4471	0.2961	0.2982	0.4375	0.314
EX5	0.3103	0.5358	**0.8035**	0.3984	0.4297	0.2684	0.4608	0.3617
EXT1	0.1972	0.498	0.41	**0.8501**	0.2499	0.2985	0.311	0.3032
EXT2	0.3182	0.544	0.4846	**0.8947**	0.2649	0.305	0.422	0.3055
INTL2	0.2975	0.2802	0.2958	0.2387	**0.7558**	0.0667	0.1909	0.4011
INTL4	0.275	0.256	0.3264	0.2176	**0.7718**	0.2576	0.2195	0.3477
INTL5	0.3395	0.2825	0.4265	0.2275	**0.7908**	0.2031	0.2951	0.4565
IS1	0.1466	0.1538	0.2335	0.2243	0.1577	**0.7469**	0.2541	0.1833
IS3	0.1414	0.298	0.3212	0.3629	0.1349	**0.8547**	0.3463	0.1436
IS4	0.2233	0.2344	0.2723	0.2486	0.2517	**0.8383**	0.3623	0.2421
JS1	0.2747	0.4151	0.3779	0.3464	0.1772	0.3609	**0.7946**	0.2295
JS2	0.3755	0.4395	0.5138	0.3721	0.3035	0.3118	**0.8221**	0.3283
JS4	0.4393	0.4002	0.3581	0.2889	0.2441	0.2856	**0.7961**	0.3725
JS5	0.4268	0.459	0.4304	0.3803	0.2748	0.352	**0.861**	0.3391
SOC1	0.4038	0.3253	0.3923	0.2424	0.4258	0.1581	0.2594	**0.8117**
SOC2	0.4844	0.3302	0.3404	0.2907	0.3524	0.1797	0.3373	**0.8472**
SOC3	0.387	0.3922	0.3933	0.2653	0.4791	0.176	0.3069	**0.8356**
SOC4	0.3443	0.3543	0.3552	0.3373	0.4524	0.2495	0.3617	**0.7498**

Table 10: Average Variance Extracted (AVE)-4th iteration

Constructs	AVE
EA	0.6474
EL	0.6738
EX	0.5679
EXT	0.7616
INTL	0.5974
IS	0.6637
JS	0.6706
SOC	0.6593

In order to conform with the rule of thumb, indicators or measurement items that are loading poorly or less than 0.7 (EA5, EX3, EXT3, EXT5, INTL 3) on their intended constructs were dropped from the measurement model in the next iteration of PLS algorithm. Therefore, after dropping fifteen indicators out of forty-two total indicators due to their poor loadings on their intended constructs, Table 9 shows all indicators are now loaded high on their respective constructs and low on other constructs and it shows no presence of cross-loadings. AVE is generated automatically using the bootstrap technique by the SMARTPLS. AVE measures the variance captured by the latent construct, that is, the explained variance. It is clear from Table 10 that the AVE for all the latent constructs are well above 0.5.

Table 11: SQRT of AVE

Constructs	EA	EL	EX	EXT	INTL	IS	JS	SOC
EA	**0.8046**	0	0	0	0	0	0	0
EL	0.3729	**0.8209**	0	0	0	0	0	0
EX	0.371	0.6412	**0.7536**	0	0	0	0	0
EXT	0.3005	0.5981	0.5151	**0.8727**	0	0	0	0
INTL	0.3954	0.3538	0.4555	0.2951	**0.7729**	0	0	0
IS	0.2117	0.2878	0.341	0.3455	0.2254	**0.8147**	0	0
JS	0.4651	0.5238	0.5136	0.4244	0.3067	0.3999	**0.8189**	0
SOC	0.5014	0.4309	0.4548	0.3482	0.5233	0.2331	0.3888	**0.812**

Bolded values are the SQRT of AVE for each latent construct.

As a rule of thumb, the square root of the AVE of each construct should be much larger than the correlation of the specific construct with any of the other constructs in the model (Grefen & Straub, 2005). In this study, the results of the square root of AVE on the PLS algorithm (Table 11) for each construct was found to be above 0.75 and larger than the correlation of that construct with other constructs. Therefore, it can safely be concluded that, in the case of these data, all the square roots are much larger than any correlation, which shows a necessary aspect of the discriminant validity of the latent constructs.

Convergent validity is shown when each measurement item loads with a significant t-value on its latent construct and correlates strongly with its assumed theoretical construct. Typically, the p-value of the t-value should be significant at least at the 0.05 alpha protection levels (Gefen & Straub, 2005).

Table 12: t-vales

Indicators-Construct	Correlations	T Statistics
EA1 <- EA	0.8142	31.5
EA2 <- EA	0.7973	23.5682
EA3 <- EA	0.7614	24.4346
EA4 <- EA	0.8433	46.5318
EL1 <- EL	0.7809	23.0625
EL2 <- EL	0.8492	35.6904
EL3 <- EL	0.8308	24.5293
EX1 <- EX	0.6957	14.0851
EX2 <- EX	0.7436	20.4167
EX4 <- EX	0.7676	19.6644
EX5 <- EX	0.8035	31.3776
EXT1 <- EXT	0.8501	30.2519
EXT2 <- EXT	0.8947	43.0608
INTL2 <- INTL	0.7558	22.0976
INTL4 <- INTL	0.7718	16.7892
INTL5 <- INTL	0.7908	21.421
IS1 <- IS	0.7469	15.7208
IS3 <- IS	0.8547	29.943
IS4 <- IS	0.8383	35.9956
JS1 <- JS	0.7946	27.0567
JS2 <- JS	0.8221	33.7493
JS4 <- JS	0.7961	24.8109
JS5 <- JS	0.861	38.293

SOC1 <- SOC	0.8117	31.9059
SOC2 <- SOC	0.8472	40.3135
SOC3 <- SOC	0.8356	35.3272
SOC4 <- SOC	0.7498	17.5515

As it is mentioned above at the 95% confidence level or at the 0.05 significance level the t-value must be greater than 1.96 for each of the loadings of the corresponding constructs. So, convergent validity is shown when the t-values of the outer model loadings are above 1.96. The t-values of the loadings are, in essence, equivalent to t-values in the least-squares regression (Grefen & Straub, 2005). The above bootstrap report in Table 12 shows that for every measurement item in this study, the corresponding t-statistic is considerably greater than 1.96. Table 10 therefore shows evidence of convergent validity in the measurement model.

Reliability:

Reliability is a measure of the degree to which a set of indicators of a latent construct is internally consistent based on how highly interrelated the indicators are with each other. As reliability goes up, the relationship between a construct and the indicators are greater, meaning that construct explains more of the variance in each indicator and the amount of measurement error decreases (Hair Jr., Black, Babin, & Anderson, 2010) .

Table 13: Estimates of Reliability

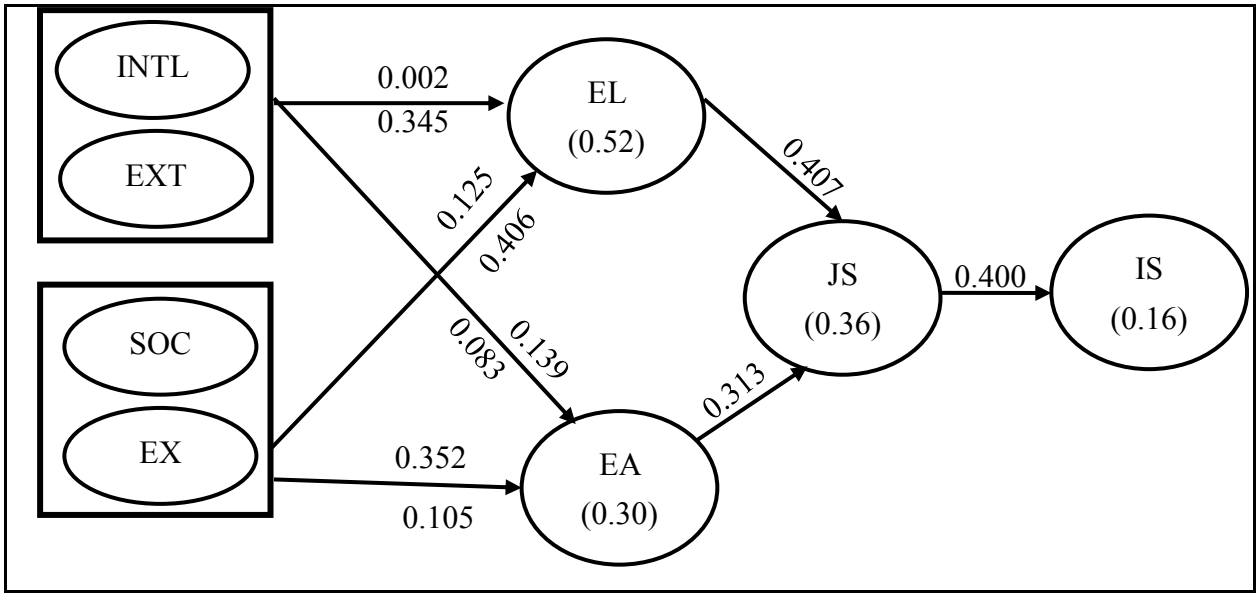
Constructs	Composite Reliability	R Square	Cronbach's Alpha
EA	0.88	0.2952	0.8195
EL	0.8609	0.5211	0.7578
EX	0.8398	0	0.7465
EXT	0.8646	0	0.6889
INTL	0.8165	0	0.6639
IS	0.8551	0.1599	0.7487
JS	0.8905	0.3589	0.836
SOC	0.8854	0	0.827

Two estimates of reliability are the Cronbach's alpha and the composite reliability shown in Table 13. The generally agreed upon lower limit for Cronbach's alpha is 0.70, although it may decrease to 0.60 in exploratory research (Hair Jr., Black, Babin, & Anderson,

2010). In analyzing our current study, Table 13 shows the lower limit of Cronbach's alpha is 0.66 and the composite reliability is 0.817 for each latent construct and upper limit of Cronbach's alpha is 0.83 and composite reliability 0.89 which indicate the reliability of the measurement model. High construct reliability indicates that internal consistency exists (Hair Jr., Black, Babin, & Anderson, 2010).

Structural Model:

A structural model represents the theory that expounds the structural relationship between constructs and is usually depicted with a visual diagram (Hair Jr., Black, Babin, & Anderson, 2010). The structural relationship between any two constructs is represented empirically by the structural parameter estimate, also known as the path estimate (Hair Jr., Black, Babin, & Anderson, 2010). Figure 1 above shows the diagram corresponding to the structural theory based on the current dataset under study. INTL (Internalization), EXTL(Externalization), SOC(Socialization), and EX (Exchange) are the exogenous constructs in this structural model and are drawn at the far left of Figure 2. EL (Employee Learning), EA (Employee adaptability), JS (Job Satisfaction) and IS (Intention to Stay) are the endogenous constructs in the model.



Note: EA= Employee Adaptability, EL= Employee Learning, EX= Exchange, EXT= Externalization, INTL= Internalization, IS= Intention to Stay, JS = Job Satisfaction, SOC = Socialization.

Figure 2: Path Coefficients (Number within the parentheses represent R^2)

Each endogenous construct is determined by constructs included in the model, and so each one is seen as an outcome based on the hypothesis listed above. It is noted here that EL (Employee learning), EA (Employee adaptability), and JS (Job satisfaction) are listed as outcomes in some hypotheses and as predictors in others. The structural model shown in the path diagram in Figure 2 can now be assessed. The Path coefficients on the PLS algorithm (Table 14) show the values for the path that have been specified in the model.

Table 14: Path Coefficients

Hypothesis	Significant		Path Coefficient	T Statistics (|O/STERR|)
H6	Yes	EA -> JS	0.3133	4.5913
H5	Yes	EL -> JS	0.407	6.2827
H4b	No	EX -> EA	0.1049	1.3067
H3b	Yes	EX -> EL	0.4059	7.1148
H2b	No	EXT -> EA	0.0828	1.1096
H1b	Yes	EXT -> EL	0.3449	6.2435
H2a	Yes	INTL -> EA	0.1389	2.1659
H1a	No	INTL -> EL	0.0016	0.0273
H7	Yes	JS -> IS	0.3999	6.9609
H4a	Yes	SOC -> EA	0.3521	5.8714
H3a	Yes	SOC -> EL	0.1254	2.0188

The bootstrapping algorithm on SmartPLS is used to assess the hypothesis testing or to check whether the path coefficients are significant. The t- statistics in Table 14 points to the fact that out of eleven hypotheses, eight hypotheses (**H1b, H2a, H3a, H3b, H4a, H5, H6, H7**) are statistically significant. The PLS results are shown in Figure 2. As for hypotheses H1, externalization positively affects employee learning ($\beta = 0.345$, $p<0.05$) but not internalization ($\beta = 0.002$). For hypotheses H2, when it comes to employee adaptability, the findings of this

study show that internalization positively affect employee adaptability ($\beta = 0.139$, $p<0.05$) but not externalization ($\beta = 0.083$). For hypotheses H3, both socialization and exchange significantly affect employee learning ($\beta = 0.125$, 0.406 $p<0.05$). For hypothesis H4, knowledge sharing and employee adaptability, only socialization turns out to significantly affect employee adaptability ($\beta = 0.352$, $p<0.05$) but not exchange ($\beta = 0.105$). This study also finds that employee learning positively affect employees' job satisfaction ($\beta = 0.407$, $p<0.05$). In addition to employee learning, this study also finds a significant relationship between employee adaptability and job satisfaction ($\beta = 0.313$, $p<0.05$) as well as job satisfaction and intention to stay ($\beta = 0.400$, $p<0.05$). Thus, both the hypotheses 6 and 7 are supported. Overall, however, given that, eight out of eleven estimates are consistent with the hypotheses; these results support the theoretical model.

CHAPTER 6

DISCUSSION, IMPLICATIONS AND CONCLUSION

The purpose of this study was to examine the impact of two sub-processes of knowledge capture namely internalization and externalization and two sub-processes of knowledge sharing namely socialization and exchange on employee learning, employee adaptability, job satisfaction and intention to stay on the job with special reference to the banking industry in Bangladesh. This study was driven by the fact that organizations in Bangladesh have started deploying knowledge management programs. Most often, technology solutions are pushed, while ignoring the human elements of knowledge management (Wasko & Faraj, 2005 cited in Misuraca. P, 2013). The theoretical model developed in this study (Figure 1) was based on the literature in knowledge management. In prior studies, as it is shown above in the literature study, that the impact of knowledge management as a whole or the KM processes like knowledge creation, knowledge capture, knowledge sharing, and knowledge application on job satisfaction, intention to stay or the overall performance of an organization was assessed but not the impact of sub-processes of those knowledge management processes. Although many researchers studied the impact of KM on job satisfaction or overall performance of an organization, no studies were found that addressed the research questions in this study. This study used quantitative survey research design to collect data and evaluate the results so that inferences can be drawn from a larger population. In this chapter, findings from the results are discussed and implications and recommendations for future studies are presented.

Discussion

The result of the measurement and structural model test lend support for proposed research model. All the paths, except three, in the model appear to be statistically significant. In this study, two research questions that have been delineated in chapter 1 above, have been tested using eleven hypotheses. The hypotheses that have been found to be significant are as follows (Table 12):

H1b: High externalization leads to enhanced employee learning.

H2a: High Internalization facilitates employee adaptability.

H3a: High Socialization facilitates employee learning.

H3b: High Exchange facilitates employee learning.

H4a: High Socialization facilitates employee adaptability.

H5: Willingness to learn increases job satisfaction

H6: Employee adaptability facilitates job satisfaction.

H7: Job satisfaction leads to Intention to stay.

The following hypotheses have been found insignificant (Table 12):

H1a: High Internalization leads to enhanced employee learning. (0.0273)

H2b: High externalization facilitates employee adaptability. (1.11)

H4b: High Exchange facilitates employee adaptability. (1.3)

Since eleven hypotheses have been derived from two research questions and three are found to be not significant, there is no way to conclude that research questions 1 and 2 are both significant.

As far as the impact of internalization and externalization sub-processes of knowledge capture on employee learning is concerned, only externalization has been found to significantly lead to employee learning. As it has been explained above, externalization is the process when tacit knowledge is converted into explicit knowledge. Externalization is the key to knowledge creation as it creates new explicit knowledge from tacit knowledge (Nonaka, Toyama & Byosiere, 2001). Conversion of tacit knowledge into explicit knowledge can be influenced by dialogue and mutual reflection and the effectiveness of externalization can be reinforced by learning and motivation (Nonaka & Takeuchi, 1995). Employees engage in learning activities and develop the knowledge base for the cognitive systems and shared memories, which lead to organizational learning. The positive impact of externalization on employees learning may cause employees to focus on learning for their own job, resulting in a knowledge base that focuses on a relatively narrow domain of interest (i.e., one's own job) and also outside their current job, resulting in a knowledge base that broadly covers several domains of interest (Cheung, 2011). The significant relationship of externalization and employee learning may

develop a learning culture within the organization that can encourage collaboration and team learning and establishes systems to capture knowledge for the greater benefit of the organization.

As for employee adaptability, in this study only internalization of knowledge capture process of knowledge management has been found to have a significant relationship with employee adaptability. Adaptability as defined by Ployhart and Bliese (2006) as an individual's ability, skill, disposition, willingness, and /or motivation, to change or fit different task, social, and environmental features (as cited in Cullen et.al., 2014). Adaptable individuals take responsibility for adjusting to the situation. In the case of using new technology, this would include learning the skills necessary to operate the equipment efficiently. The proactive, resourceful, and resilient nature of adaptable employees allows them to acquire these skills on their own and to also seek out and use support from their organization (Cullen, Edwards, Casper, & Gue, 2014). Knowledge internalization as mentioned above is the process of embodying explicit knowledge into tacit knowledge and it is through internalization; explicit knowledge created is shared throughout an organization and converted into tacit knowledge by individuals (Tsai & Lee, 2006). Sabherwal & Becerra-Fernandez (2003) found in their study that both the internalization and externalization processes of knowledge capture mainly focus at the individual level, internalization is intrinsically related to learning, and externalization is essential to articulation. However, this study finds that in the context of the banking industry in Bangladesh, while externalization leads employees to enhanced learning, internalization, on the other hand, helps employees to be more adaptable. The above findings could be related to the specific nature of the banking industry. The qualitative interviews indicated that the banking industry under survey emphasizes the conversion of tacit knowledge to explicit knowledge for employee learning and the conversation of explicit knowledge to tacit knowledge for employee adaptability. This finding is surprising simply because internalization, as explained by Sabherwal & Becerra-Fernandez (2003), is intrinsically related to learning and externalization is essential to knowledge articulation, which can help facilitate employee adaptability.

As for the two sub-processes of knowledge sharing: socialization and exchange have been found to be significantly related to employee learning in an organization. While internalization and externalization both focus mainly at the individual level - socialization and exchange focus at individual, group, or organizational levels (Sabherwal & Becerra-Fernandez,

2003 and Becerra-Fernandez et. al., 2004). Knowledge sharing through socialization and exchange occurs when an individual is willing to assist as well as to learn from others in the development of new competencies. As mentioned by Bornemann & Sammer (2003) knowledge could increase its value when it is shared with and transferred to others (cited in Yang, 2007). The process of learning by way of sharing information and knowledge among the employees in an organization may enable individuals and organizations to reflect on the consequences of their behaviors and actions, to obtain insights from an environment where they operate, to understand the environment, and hence to interpret the meaning and react to it in more accurate approaches (Jones et al., 2003 cites in Yang, 2007). As the organization provides opportunities for its members to share their experiences and new learning and perspectives with others, individuals learning should stimulate organizational learning (Yang, 2007).

As for knowledge sharing and employee adaptability, only socialization sub-processes of knowledge sharing process turns out to be significantly related to employee adaptability in the case of banking industry under study. That means tacit knowledge shared between employees enable employees to be more adaptable. This is consistent with hypothesis H2a that was also found to significant in this study. Internalization, which is the conversion of tacit knowledge from explicit knowledge, is significantly related to employees' adaptability and socialization, which is sharing of tacit knowledge, is found to be significantly related to employees' adaptability in the banking industry of Bangladesh under study.

With regard to the employees' willingness to learn and employees' job satisfaction, this study finds the relationship between willingness to learn and job satisfaction are significantly related to each other. Employees' willingness to learn may provide employees domain-specific knowledge skills and may be used for the production of novel ideas with the potential utility to the particular domain of interest (Cheung, 2011). These domain- specific knowledge skills of employees increase the level of contentment that employees feel about their work. In addition to employee learning, this study also finds a significant relationship between employee adaptability and job satisfaction. This study also supports the relationship between job satisfaction and employees' intention to stay. Employee turnover as mentioned by Abelson and Baysiner (1994), Dalton et al., (1981) may at times benefit firms by reducing stagnation, improving innovation, eliminating poor performers and reducing costs (cited in Droege & Hoobler, 2003). The potential disadvantage of employee turnover as mentioned also by Droege

& Hoobler (2003) is the loss of organizational level tacit knowledge and as a result, employee turnover is considered a major obstacle for many organizations. A similar study conducted by Bang (2015) among some nonprofit sports organizations' volunteers found that job satisfaction among volunteer predicted intention to stay with their organizations. The overall findings of this study can be summarized as follows:

The first finding of this study portent to the fact that employee learning is predicted by externalization, socialization, and exchange.

The second finding is derived from the results of this study suggest that internalization and exchange are the predictors of employee adaptability.

The third finding of this study confirms that both the employee learning and adaptability are the predictors of job satisfaction

The fourth finding portends to the fact that job satisfaction is the predictor of employees' intention to stay.

The fifth finding is derived from the results of this study suggest that researchers and practitioners concerned with employees' job satisfaction and intention to stay should pay more attention to employee learning and adaptability.

Theoretical Implications

The results of this study have important theoretical and practical implications that impact both the academics and practitioners within the KM community. This study aimed to strengthen the understanding of how internalization and externalization of knowledge capture.socialization, and exchange of knowledge sharing influence employee learning and adaptability - and how employee learning and adaptability influence job satisfaction, thereby employees' intention to stay in an organization. This study focused on the likelihood that implementation of knowledge management processes will increase the organizations' competitive advantage by increasing job satisfaction and retaining knowledge workers.

The findings of this study contribute to further the understanding of the way in which knowledge management initiatives should be implemented in organizations - especially financial organizations.

Through empirical testing, this study strongly supports most of the hypotheses that knowledge capture and knowledge sharing do have an impact on job satisfaction and intention to stay through employee learning and adaptability. From a theoretical perspective, the results confirmed the predictions that knowledge management, in general, and knowledge capture and knowledge sharing, in particular, play a major explanatory role in how employee learning and adaptability influence employees' job satisfaction and intention to stay. The current study contributes theoretically to the existing literature of knowledge management as to how knowledge capture and knowledge sharing motivate employees to learn and adapt and how learning and adaptability contribute to job satisfaction and staying intention. As predicted, this study found that the relationship between intention to stay and job satisfaction was strengthened when employees have the quest for knowledge and are adaptable. The results also revealed that the employees' quest for knowledge and adaptability are shaped by the knowledge management initiatives.

Faced with rapidly changing organizational models and a growing emphasis on knowledge and information, many companies are discovering a need for change in the workplace (Misuraca, 2013). As noted by Greene et al. (1994) financial institutions often shackle their contact employees with policy manuals or strict rules resulting in rigid rather than client centric service (cited in Preez & Bendixen, 2015). Therefore, to remain competitive and improve overall services, management of financial institutions should carefully design and implement knowledge management initiatives for employees and actively pursue their practices by all the employees.

The results of this research also confirm that for the financial service firms studied, knowledge management plays an important role in employees' job satisfaction and intention to stay in the job. A successful knowledge capture and knowledge sharing processes would result in employees interacting and serving customers better. Existing knowledge management literature lacks empirical studies that describe how specific sub-processes of different knowledge management processes impact on employees in terms of leaning, adaptability, job satisfaction and intention to stay. The results of this study show that not all the sub-processes will have equal impact on employees. The findings of this study suggest that in order to have positive impact on employees, the focus of an organization should not be specific knowledge

management processes, rather focus should be on sub-processes of specific knowledge management processes.

Practical Implications

This study will add value and contribute to organizations as they prepare to implement knowledge management initiatives. Organizations that have well-designed infrastructures and are aware of their knowledge management initiatives, especially knowledge capture and knowledge sharing processes of knowledge management, can plan strategically and make informed decisions in this highly competitive and uncertain business world. This is of paramount importance because organizations make significant investments in time, money and personnel when they embark on knowledge management initiatives (Parikh, 2001 as cited in Lawson, 2003).

A major takeaway for practitioners, especially management,from this dissertation is that employees may be nurtured to create, capture and share the type of knowledge desired by the organization. Managers can establish platforms for employees within the same functional area and across different functional units to engage in knowledge and experience sharing. They may recognize and reward employees who constantly acquire new knowledge and skills within their current job (Cheung, 2011). It is also important for the management or the organization to build the knowledge management infrastructure for their employees that will eventually lead to employees' job satisfaction and their willingness to stay with the organization.

The findings of this study also portend to the fact that when employers take proper knowledge initiatives and when employees understand and make use of knowledge management tools provided by the organizations, employees are able to create new ideas and are prepared to respond to changes. As for employees, this level of involvement in their job indicates that they are satisfied with their jobs and are likely to stay with the organization. Employees' intention to stay in the job is predicted by employees' satisfaction with their jobs. Khan & Nemati (2011) and Herzberg (1974) found that that high level of employee involvement with their job represent self-actualization (cited in Misuraca, 2013). Self-actualization according to Maslow (1943) is described as an individual being very satisfied with his or her job and level of achievement (cited in Misuraca, 2013). This study adds to the fact that

knowledge capture and knowledge sharing in an organization can lead to an employee's self-actualization. The lack of involvement on the part of the employees could generate the feelings of alienation in the organization. The evidence of this study implied that self-actualization through knowledge capture and knowledge sharing promotes employees' learning and adaptability, which then lead to job satisfaction and staying intention. This study also suggests that employees' learning and adaptability depend on the usability and comfortability of the knowledge management initiatives undertaken by the management.

In order for an organization to create a conducive environment for knowledge management, especially knowledge capture and knowledge sharing, to thrive an organization must build trust, personal interaction, and relationships so that knowledge may be exchanged among employees of an organization. Bennett et al. (2010) argued that social networking could provide enhanced levels of job satisfaction (as cited in Misuraca, 2013) and employees' intention to stay. When employees are communicating and socializing about work, then knowledge exchange takes place. It may be that knowledge workers are the key contributors to the knowledge development process within the organization (Misuraca, 2013).

Practitioners may also employ the same experimental method using the instruments developed for this study to analyze the impact of internalization and externalization of knowledge capture and socialization as well as the exchange of knowledge sharing on employee learning, adaptability, job satisfaction and finally employees' intention to stay in the job. The knowledge management assessment instrument developed in this study have passed the tests of reliability and validity. This instrument can be used to expand the research in the area of knowledge management.

One way by which the practitioners or organizational leadership can demonstrate commitment to knowledge management is by having top management assume the visible role of knowledge champions. The knowledge champions should spearhead the tasks of crafting a knowledge management strategy for firm, setting goals, and emphasizing the potential benefits of knowledge management, instituting policies and procedures for rewards, recognition, incentives, and promoting internalization, externalization, socialization and exchange of knowledge capture and sharing (Kulkarni, Ravindran, & Freeze, 2006-7).

Employees today are more often loyal to their profession than they are to a particular company. One of the biggest benefits of the knowledge capture and knowledge sharing is that

they help retain employees. If an employee or knowledge worker is working at an organization where he or she is able to be an active member of one or more communities of practice, this will be a significant incentive to stay with that organization (Dalkir, 2011).

Limitations

As with any empirical study, this study has some limitations. The first limitation is the sample composition. The sample in this study can be considered as purposive sampling. This study involved self-administrated questionnaires and was open to all levels of staff. However, as it was shown above, in most of the organizations only a limited number of senior management participated in this survey.

The second limitation in this study is the sample size. The sample size in some of the eight commercial banks from 23 different branches was small and might not be representative of all the players who might be instrumental in effective utilization of knowledge management initiatives. As such, the sample may be biased towards members who were highly committed.

The third limitation is related to the generalizability of this study. At this point, it can be safely stated that, since the hypotheses were tested only with a sample from the financial institutions in Bangladesh, it won't be appropriate to generalize the results to other cultures and countries. Future studies need to test this measure and the related hypotheses in a cross-cultural setting. Limitations of this study suggest some useful directions for future research that deserve consideration.

The fourth limitation of this study is that it only considered two processes of knowledge management and only commercial banks. It may be necessary to distinguish all four different knowledge management processes along with their sub-processes as elucidated by Becerra-Fernandez et al. (2004) as well as across different industries. That way we can observe the variations in the business of different types with different knowledge management processes.

The fifth limitation relates to the measurement of perception as opposed to actual behavior. Perceptions have been shown to be a strong predictor of actual behavior (Webb & Sheeran 2006 as cited in Anderson & Agarwal, 2011). However, this study focused on employees' perception rather than behavior.

Directions for Future Research

This study mainly focused on only two processes of knowledge management. The empirical model that was presented and studied in this research opens up multiple opportunities for future research. The model studied knowledge capture and knowledge sharing from banks' employees' perspectives and used that as an indication of the success of a knowledge management intuitive. This study has demonstrated a strong positive relationship between knowledge capture, knowledge sharing and job satisfaction, and intention to stay via learning and adaptability. It is recommended that future research should explore other two process of knowledge management or all the processes of knowledge management at a much more granular level as elucidated by Becerra-Fernandez et al. 2003 and the impact on four endogenous variables that were studied in this dissertation. Researchers could also explore the impact of other variables such as organizational climate, leadership behaviors, and organizational commitment on knowledge sharing and knowledge capture and how knowledge sharing and knowledge capture impact employee learning, adaptability, job satisfaction and intention to stay. In addition, future research could take larger sample sizes from all different management levels across different industries. More conclusive results are needed to see which knowledge management impacts and supports job satisfaction and intention to stay in different industries. This will further help us understand how knowledge workers improve their learning and adaptability using different knowledge management processes across different business industries.

Researchers in future research should also look at a more detailed approach of knowledge capture and knowledge sharing processes. As mentioned by Kulkarni et al. (2006-7) those KM processes should be treated at a much more granular level by treating the nature of identification and vetting processes, and by analyzing work flow steps that facilitate capture and sharing of identified knowledge as separate constructs to understand the antecedents of KM success.

Another area where future research might be conducted is how the usage of IT artifacts can help improve employees' learning and adaptability - thereby job satisfaction and intention to stay. In order to see whether the organization has proper knowledge management mechanisms and technologies, future research should investigate IT artifacts in terms of system quality, information quality, service quality and user satisfaction.

To broaden our understanding of the impact of different knowledge management processes on job satisfaction and intention to stay, other instruments as suggested by Chen(2005) such as: job description index that measure six principal facets of job satisfaction: type of work, pay, opportunities for promotion, supervision, co-workers on the job, the job, in general, can be added with the existing instruments suggested in this study.

Conclusion

As KM evolves and new factors are introduced, knowledge (both the tacit and explicit) must be captured through internalization and externalization and shared through socialization and exchange. Since organizations need to become smarter and faster, intellectual capital is the means for transferring the knowledge to knowledge workers. The information is captured and transferred so that relevant data are transmitted from one individual to another (Misuraca, 2013). As organizations shift toward a dynamic workforce that applies knowledge management mechanisms to foster learning and adaptability among employees in the organization, it becomes important that these organizations understand the impact of knowledge capture and knowledge sharing on job satisfaction and intention to stay.

The current study examined the outcomes of knowledge capture and knowledge sharing processes of knowledge management on employees in terms of learning and adaptability and thereby increase their job satisfaction and intention to stay. The results suggested that, in business organizations, proper knowledge management initiatives could significantly change the attitudes of the employees' plays at work, which can positively impact the overall organization. In order to understand the financial institutions' employees' perceptions and how knowledge capture and sharing help enhance learning and adaptability and thereby job satisfaction and intention to stay on the job, this study resulted in several theoretical and practical contributions that will help guide management or organizations to select and implement the appropriate knowledge management mechanisms as well as technologies.

Knowledge capture and knowledge sharing lie at the core of knowledge management and it reflects employees' willingness to learn and share their valuable knowledge as well as their actions facilitating the exchange of relevant information with other members across the organization (Trivellas et al., 2015). Building on the shared values, norms, accepted practices

or perceptions held by employees within an organization, knowledge capture and knowledge sharing are evolved and treated as a knowledge-centered culture, which molds individual behavior (Trivellas et.al 2015). The findings of this study clearly show that knowledge capture and knowledge sharing are the precursor of employee learning, adaptability, job satisfaction and intention to stay. There is a need for management or organizations to adopt knowledge capture and sharing techniques, practices, and nurture knowledge management culture through appropriate mechanisms and technologies to improve employees learning quest and adaptability. To remain competitive in a very competitive world, knowledgeable and adaptable employees are the important resources.

Knowledge management systems are the integration of technologies and mechanisms that are developed to support knowledge management processes. As mentioned by Becerra-Fernandez (2004), the mechanisms that the organization should use to promote externalization are models, prototype, best practices; lesson learned and as for internalization are learning by doing, on the job training, learning by observation and face-to-face meeting. Knowledge management technologies that are needed to be implemented for the promotion of knowledge capture are expert systems, best practices and lesson learned databases, computer-based communication computer-based simulations etc. The mechanisms that the organization should use to promote socialization are: employee rotation across departments, conferences, brainstorming, retreats, cooperative projects and for the promotion of exchange sub-process of the knowledge sharing memos, manuals, letters, and presentations should be used. For the proper implementation of those mechanisms, the technologies that need to be used are: video-conferencing, electronic discussion groups, e-mail, team collaboration tools, web-based access to data, best practices and lesson learned databases etc. (Becerra-Fernandez et al., 2004). Proper implementation of KM mechanisms and technologies will facilitate employees to enhance learning and share knowledge with others within the same unit or across different functional units. Knowledge capture and sharing will help increase organizational assets that will pave the way for organizational effectiveness and competitiveness.

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APPENDICES

APPENDIX A: LETTER TO THE ORGANIZATION

Dear Sir:

I am a Doctoral Student at Dakota State University and currently conducting a research on the impact of Knowledge capture (internalization and externalization) and Knowledge sharing (socialization and exchange) on employee learning, adaptability, job satisfaction and the intention to stay on the Job. I would be grateful if you would permit me to conduct a survey of your organization.

The purpose of this research is to identify if there exist any relationship between knowledge management (specifically knowledge capture and knowledge sharing processes of knowledge management) and employee learning, employee adaptability, job satisfaction as well as an employee's intention to stay on the job and how knowledge management impacts employees of an organization. The implications of this study can be of significant value to organizations as they prepare to implement knowledge management initiatives. The findings could help organizations assess the likelihood that implementation of knowledge management initiatives specially knowledge capture and knowledge sharing processes of KM will be successful or will increase the organization's competitive advantages.

The survey will elicit the views of your staff members through a questionnaire to determine the type of knowledge management initiatives that are employed and used by your employees within your organization. This research will be conducted using all ethical research standards and procedures. All responses will be held in strict confidence and complete anonymity is guaranteed.

I thank you for your permission. Answers to this survey will be of greatest importance to the success of this study.

Sincerely,

Zahid Zamir
D.Sc. In Information Systems
College of Business and Information Systems
Dakota State University
820 N Washington Ave
Madison, SD 57042
E-mail: zbzamir@pluto.dsu.edu

APPENDIX B: LETTER TO RESPONDENT

Dear Respondent:

I thank you for taking time to respond to the attached questionnaire. Your participation in this study will be instrumental for me to complete my research. I am a Doctoral Student at Dakota State University, USA and currently conducting a research on the impact of Knowledge capture (Internalization and externalization) and Knowledge sharing (Socialization and Exchange) on Employee learning, adaptability, Job Satisfaction and the Intention to stay on the Job. I would be grateful if you would permit me to conduct a survey of your organization.

The Purpose of this research is to identify if there exist any relationship between knowledge management (specifically knowledge capture and knowledge sharing processes of knowledge management) and employee learning, employee adaptability, job satisfaction as well as an employee's intention to stay on the job and how knowledge management impacts employees of an organization. The implications of this study can be of significant value to organizations as they prepare to implement knowledge management initiatives. The findings could help organizations assess the likelihood that implementation of knowledge management initiatives specially knowledge capture and knowledge sharing processes of KM will be successful or will increase the organization's competitive advantages.

This survey asks for your opinion on knowledge management initiatives that are employed and used by you within your organization. Since questions ask you for your judgment, there are no right or wrong answers. Sometimes people are tempted to answer survey questions in the way they think others, especially management expected of them. Please respond based on your own judgement, regardless of what you think others expect or what is socially acceptable. This research will be conducted using all ethical research standards and procedures. Your response will be held in strict confidence and complete anonymity is guaranteed.

Please answer all questions. Use a pen and check **Only One option for every question** that best represent how you feel or perceive about that question. I thank you for your participation. Your answers are of the greatest importance to the success of this study.

Sincerely,

Zahid Zamir
D.Sc. In Information Systems
College of Business and Information Systems
Dakota State University
820 N Washington Ave
Madison, SD 57042
E-mail: zbzamir@pluto.dsu.edu

APPENDIX C: QUESTIONNAIRE

Instrument for measuring impact of Knowledge Capture and Knowledge Sharing on employee learning, adaptability, job satisfaction and intention to stay on the job.

Demographics:

1. The major business function of my organization is
    a. Finance
    b. Health
    c. Legal
    d. Education
    e. Government
    f. Other _____

2. The number of persons in my organization
    a. 10 and less
    b. 11-40
    c. 41-80
    d. 81-100
    e. 100+

3. My Job rank is
    a. Senior Management
    b. Middle Management (Supervisor, Administration)
    c. Technical Staff
    d. Support Staff

4. My department or Unit is
    a. Information system
    b. Finance
    c. Human Resource Management
    d. Customer Service
    e. Administration
    f. Other _____

5. Length of time in my present position is
    a. 0-1 year
    b. 2-3 years
    c. 4-6 years
    d. 7+ years

6. My Gender is
    a. Male
    b. Female

7. I am in the age group
    a. 30 and under
    b. 31-40
    c. 41-50
    d. 50+

8. Education Level I attained is
    a. High school Graduate (HSC)
    b. Technical Training/ Vocational Diploma
    c. Undergraduate Degree
    d. Graduate Degree/Diploma
    e. Other _____

9. Number of Promotion(s) I have received in the last 3 years
    a. 0
    b. 1
    c. 2
    d. 3+

Scale:
1 – Strongly Agree 2 – Agree 3 – Neither Agree nor Disagree 4- Disagree 5 – Strongly Disagree

Please Check one option for every question (Item) that best represent how you feel or perceive about that item (Question)

Internalization: (Tacit knowledge (ideas, belief) accumulation through personal experiences, simulations and experimentation)

	Items	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1.	I believe learning by continuous self-refinement through on the job training can help accumulate tacit knowledge. (Tacit knowledge includes one's belief , perception or point of view)					
2	I share and try to understand management visions through communications with other employees.					
3	I agree that learning by doing (which means that written procedures and rules/practices have to be carried through action), training and exercises allow the individual to access the knowledge dominion of the organization.					
4	I collect tacit knowledge (Belief, perception, point of view) by increasing the use of formal knowledge (explicit knowledge) in real life or computer-generated applications.					
5	I can use the knowledge repository (Internet/Database/Library) to obtain knowledge for my job.					

Externalization: (Articulating tacit knowledge (Ideas, beliefs) into explicit knowledge (words, concepts, visuals, analogies, metaphors, narratives**)**

	Items	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	I believe my organization recognize contradiction through metaphor/symbol and resolve them through analogy.					
2	I agree with the notion that my organization encourages dialogue, "Listening and contributing to the benefit of all participants' within the organization.					
3	I produce and document/record concepts in by screening ideas from others.					
4	For the efficiency and effectiveness of my work, I record/ document subjective opinions of other employees of my organization.					
5	I capture and translate tacit knowledge (ideas, beliefs, perception) of customers or experts into readily understandable forms (write them down or record them).					
6	I create manuals/handbooks/booklets and documents on products and services					

Socialization: (sharing tacit knowledge (ideas, beliefs) between individuals through social interaction related to work/task) .

	Items	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	I share information and knowledge necessary for the tasks.					
2	I improve task efficiency by sharing information and knowledge.					
3	I promote sharing of information and knowledge with other teams in my organization.					

4	I promote and organize brainstorming retreats or camps for knowledge sharing to solve problem					
5	I believe employee rotation across areas for knowledge seeking and sharing should be encouraged.					
6	I believe employees from various functional units should work together to achieve a common goal.					

Exchange: (sharing explicit knowledge (words, concepts, narratives) among individuals, groups, departments or organizations)

	Items	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	I use information systems, like **intranet and electronic bulletin boards** developed by my organization to share information and knowledge with other employees.					
2	I use repositories of information (database), best practices, and lessons learned to share explicit knowledge related to the task.					
3	I prefer to exchange explicit knowledge through computerized communication networks (Social Media).					
4	I am happy the way my organization uses Memos, manuals, letters and presentations to share information with employees.					
5	My Company creates/produces materials by gathering management figures and technical information to share with employees.					
6	I feel the need for reconfiguration of existing documents through sorting, adding, combining and categorizing of explicit knowledge.					

Employee Learning:

	Items	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	I get various formal training programs for performance of duties provided by my organization.					
2	I receive informal individual development other than formal training such as work assignments and job rotation provided by my organization.					
3	Employees are encouraged to seek professional development (attending seminars, symposia, and so on).					
4	I consider employees' development through learning as a key to success rather than a cost to the organization.					
5	I am continuously learning and trying to improve myself.					

Employee adaptability: (Employees' willingness to accept change based on organizational circumstances)

	Items	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	I am able to take on new tasks.					
2	I can step in for co-workers when needed.					
3	I consider myself effective in adjusting to changes.					
4	I am open to doing things in a new way.					
5	My organization encourages employees to adjust to changing situations through innovation and creativity.					

Job Satisfaction:

	Items	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	All things considered, I feel very satisfied when I think about my job .					
2	I am made to feel that I am an important part of the company.					
3	I have good working relationships with my co-workers.					
4	I enjoy working in this organization.					
5	My job is rewarding/ I get a sense of personal accomplishment from my work					

Intention to Stay:

	Items	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	I am not actively searching for another job.					
2	I seldom look at the job listings online.					
3	I have no interest in searching for a job in the next year.					
4	It is very likely that I will be working at my company one year from today?					